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ABSTRACT

Considering alternative physical formats for the public card catalogs currently used in the University of California at Los Angeles libraries, a study group at began by investigating six possibilities: 1) cards; 2) photographically-produced catalogs; 3) typeset-printed catalogs; 4) computer-produced catalogs; 5) microform or video catalogs; and 6) on-line terminal access. Each system was considered in terms of 13 possible decision factors which included ease of use, equipment requirements, and conversion and maintenance costs. Tables comparing the 13 decision factors for the 6 catalog formats and an extensive annotated bibliography are included. (EMH)

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U C L A

Working Group on Public Catalogs

Subgroup B - Interim Report
State of the Art and Alternatives
July 1974

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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INTRODUCTION

This document is a working paper prepared by a sub-committee of the UCLA Working Group on Public Catalogs. The material included consists of preliminary data gathered for analysis and consideration by the full Working Group during the course of their study.

WORKING GROUP ON PUBLIC CATALOGS
Report on Subgroup B

Introduction

I. Charge

Subgroup B will study the literature, collect technical data on change, visit other institutions to review projects, and work out a time and dollar framework for a transition phase. (WGPC-1)

II. Approach

The Subgroup began its study with a search of the literature. This search revealed six possible formats which appeared to be particularly useful for purposes of discussing alternative physical formats of the public catalog. A detailed discussion of the following formats accompanies this report: cards: book catalog - photographically produced; book catalog - printed by typesetting; book catalog - computer produced; microform catalog (fiche or film) or video; on-line terminal access.

Each of the six formats is considered in terms of thirteen possible decision factors: user factors (ease of use, cost to user, assistance needed); historical development and present status; available funding; updating (ease and speed); equipment and housing; maintenance and security; costs - developmental; costs - retrospective conversion; costs - updating; related uses; cooperative relationship; employment; special feature.

Although the literature search was a diligent one, the literature identified did not, in general, reveal specific information immediately relevant to the decision factors which must be considered by a large university library, nor case studies directly applicable to the UCLA situation. The literature also lacks meaningful current information on the cost of specific operations, as affected by the availability of a machine-readable data base, and on the costs involved in the transition from one public catalog format to another.

The Subgroup felt that a search for dollar information on each decision factor in combination with every alternative format would not only be extremely time intensive but also in a sense an improper utilization of time, since certain alternative formats seem more likely to be the final choice than others. The Subgroup therefore decided to defer consideration of a time and dollar framework unitl the Working Group has selected the most likely alternatives for further consideration.

The Subgroup made a similar decision regarding the various possible combinations of alternative formats. Since the possible combinations are numerous (e.g. a retrospective book catalog - photographically produced, and a current book catalog - computer produced, or a retrospective card catalog and a current catalog - produced by computer but accessed through microform, etc.) and since the variables governing

eventual choice are even more so, no attempt has been made to propose an ideal system or to discuss individually an almost infinite number of possible combinations. Once the choices have been narrowed, another search for more detailed information can be made, if it is felt this would be fruitful.

III. Intellectual Considerations

In general, the Subgroup centered its discussions around alternative physical formats of the public catalog. Intellectual considerations (e.g. whether the public catalog should be dictionary, divided, classed, random access, or a combination of these) concerning the eventual organization of the public catalog must ultimately be considered, but these are not format dependent. Since the arguments for and against the various methods of organizing a catalog are abundantly available in the classic library literature, the Subgroup felt there was little value in repeating them here.

IV. Influence of LC

To a large extent, discussion of the public catalog was spurred by LC's consideration of closing its catalog. Upon reflection, however, it appears to the Subgroup that what is crucial is not whether LC closes its catalog, but whether LC abandons superimposition. The Subgroup identified four possible alternatives open to LC, any of which would affect the future of the public catalog at UCLA:

1. LC might close its catalog, abandom superimposition, and adopt AACR in its new catalog either with or without making see also cross references between entries or headings in the two catalogs;

2. LC might not close its catalog, but might abandon superimposition, adopt AACR and make see also cross references between variant entries;

3. LC might not close its catalog, but might abandon superimposition, a adopt AACR and recatalog retrospective materials as new forms of entry or heading are used;

4. LC might continue superimposition, either closing or not closing its catalog.

Although LC's decision will undoubtedly strongly influence the future of cataloging at UCLA, UCLA must still make its own final choice both among physical formats and among the ways in which the catalog can be organized intellectually. Although the alternatives open to LC and the possible effects of each on the future of cataloging at UCLA need further consideration, the Subgroup did not feel that this discussion formed part of its charge. Because of the complexity and importance of this issue, however, the Subgroup would like to identify this as another area requiring further consideration once the Working Group has narrowed the choices among physical formats.

V. Point of Closure

If UCLA's ultimate decision results in a closure of the existing catalog, unmerged with the continuing catalog, there appear to be two alternatives relating to record input following closure:

1. by date of receipt (all items received after closure would be filed into the continuing catalog);

2. by date of publication (items published prior to an established date would be filed into the retrospective catalog, with those published after that date placed in the continuing catalog).

The first alternative is the simplest and the most economical. The second would result in "neater" catalogs and would be more helpful to library users, assuming that users are generally aware of publication dates. This assumption, however, is apparently debatable.

VI. Conclusion

When the Subgroup began its study, it became apparent that the first step towards completing its charge would be identification, review, and evaluation of alternative formats of the public catalog. This report synthesizes the work done by the Subgroup in this first phase of its study.

Once the Working Group has narrowed down the possibilities, the Subgroup will then be better able to utilize its time effectively in a discussion of technical information involved in change, of a time and dollar framework for a transition phase and of the choices involved in the intellectual organization of the public catalog. This would seem, furthermore, to be the best time to visit other institutions to review projects involving formats which the Working Group identifies as likely possibilities for UCLA.

Although the Subgroup felt that the choice among alternative formats should be made by the Working Group, its general opinion was that, given unlimited funding, the optimum situation would be for the entire retrospective and continuing catalogs to be converted to machine readable form. Assuming that the necessary sophisticated software was available, the result would be a data base which would provide with relative ease any one of a variety of physical formats--cards, microfiche, books, or on-line access--depending upon the Library's requirements at a given point in time.

We leave you with our synthesis and three quotations:

1. Artistotle, Nicomecheon Ethics. Bk. ii, ch. 9, sec. 4:

   Of evils we must choose the least.

2. Samuel Daniel, The History of the Civil War. Bk. ii, st. 24:

   When better choices are not to be had,
   We needs must take the seeming best of bad.

3. Saul Bellow, Dangling Man.

Alternatives, and particularly desirable alternatives, grown only on imaginary trees.

LITERATURE SURVEY

WORKING GROUP ON PUBLIC CATALOGS
Subgroup B

Subgroup B initiated its search for alternative formats of public catalogs by scrutinizing pertinent entries in Library Literature for the period from 1964 through February 1974, with heavier emphasis on the period since 1965. Recent listings in Annual Review of Information Science and Technology were also covered. At the same time CIS began a retrospective and current search of ERIC files, turning up a number of promising titles. Simultaneously, the ERIC files were searched manually, a search which, interestingly enough, turned up some references not produced by the machine search. These searches covered RIE (Research in Education) for 1966/7 through Jan. 1974, and CIJE (Current Index to Journals in Education) for 1969 through Jan. 1974.

In addition, Ms. Diana Delanoy from SDC provided a lengthy and very valuable off-line bibliographic citation list (through Dec. 1973) from the ERIC data base at SDC. These listings were supplemented by a small listing from MEDLINE.

All of the citations thus gathered were sorted according to particular subject, and were distributed among the members of the Subgroup. It was felt that, by reading extensively in limited subject areas, each individual would be able to develop additional expertise.

The bibliography which follows cites a portion of that reading. Much of the material proved to have little value for the purposes of the Working Group, and has not been included in the bibliography. The remainder has been felt to be of some potential use. Many of those that seemed most useful have been xeroxed and are in the accompanying blue binders. An asterisk before an entry indicates that there is such a copy. A # has been placed before an entry when a bound volume has been included in the reading file. Some of the documents are from the ERIC files; and whenever the ERIC document number is included in the citation, the microfiche reproduction will be found in a file which forms part of the resources submitted with this report.

Abstracts, or portions of abstracts, have been included when they were found; and most items have been annotated to some degree, some extensively.

When the Working Group has more clearly defined the particular format alternatives it wishes to investigate, the literature search can be pursued further. To that end revised profiles could be developed for additional computer searches. The two profiles designed for the present search are herewith attached.

001907 IPS PROFILE

CLOSING THE CATALOG

```
 IN TITLE/TERMS/ABSTRACT
    ATERMS:  CATALOG* / (CARD / BOOK / DICTIONARY / DIVIDED
             CATALOG$)
    BTERMS:  (NATIONAL / RESEARCH / ACADEMIC / UNIVERSITY
             LIBRARIES)
    CTERMS:  (USE STUDIES) / MAINTENANCE / AUTOMAT* / MECHANIZ* /
             OBSOLESCEN$$ / COST$ / (COST EFFECTIVENESS) /
             COMPUTER* / (LIBRARY TECHNICAL PROCESSES)
    DTERMS:  CATALOG WITH CLOS* / DISCONTINU* / REPLAC* /
             SUPERCED* / SUSPEND*;
        S1:  SELECT IF ATERM$ AND BTERMS AND CTERMS;
        S2:  SELECT IF ATERMS AND BTERMS AND DTERMS;

DEFAULT ALERT LIMIT:   200
```

001588 IPS PROFILE

ACADEMIC LIBRARY CATALOG USE

```
 IN TITLE/ABSTRACT/TERMS
     CATERMS:  CATALOG* / INDEXING / (INDEXES LOCATERS)
    LIBTERMS:  UNIVERSITY / COLLEGE / RESEARCH LIBRAR*
     AUTERMS:  AUTOMATION / COMPUTER$ / (SEARCH
               STRATEGIES) / (USE STUDIES) / (RESEARCH
               UTILIZATION) / (LIBRARY SURVEY$ / RESEARCH) /
               (INFORMATION SEEKING / RETRIEVAL / NEEDS);
 SELECT IF  CATERMS AND LIBTERMS AND AUTERMS;

ALERT LIMIT:   200
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American Council of Learned Societies, Committee on Research Libraries. On research libraries: statement and recommendations of the Committee on Research Libraries of the American Council of Learned Societies, submitted to National Advisory Commission on Libraries. New York, Washington, D. C., Nov. 1967. 92 p.
ERIC: ED 022 480

THIS REPORT ON THE NEEDS OF RESEARCH LIBRARIES WITH RECOMMENDATIONS FOR IMPROVEMENT IS BASED ON MINUTES OF MEETINGS OF THE COMMITTEE ON RESEARCH LIBRARIES AND COMMISSIONED PAPERS ON TOPICS OF MAJOR CONCERN. PROBLEMS OF RESEARCH LIBRARIES INVOLVE: (1) INCREASED DEMANDS BECAUSE OF RISING UNIVERSITY POPULATION, NEW BUSINESS AND INDUSTRIAL INFORMATION NEEDS, EXTENSIVE GOVERNMENT RESEARCH, AND A WIDER SCOPE OF SCHOLARSHIP, (2) INADEQUATE ACQUISITION, CATALOGING AND BIBLIOGRAPHIC APPARATUS, (3) PRESERVATION OF MATERIALS, (4) STAFF, (5) LIBRARY COSTS, AND (6) AUTOMATION. A MAJOR CONCLUSION IS THAT THE NATION'S RESEARCH LIBRARIES NEED GREATER ASSISTANCE FROM BOTH GOVERNMENT AND PRIVATE SECTORS TO RESPOND EFFECTIVELY TO INCREASING DEMANDS. A NATIONAL LIBRARY SYSTEM IS PROPOSED THAT WILL REQUIRE MAJOR FEDERAL LEADERSHIP AND SUPPORT AND WILL INVOLVE THE CREATION OF A NATIONAL COMMISSION ON LIBRARIES TO BE CONCERNED WITH ESTABLISHING THE LIBRARY SYSTEM, ADVISING THE GOVERNMENT ON LIBRARY NEEDS, AND PLANNING AND COORDINATING IN THE AREAS OF ACQUISITIONS, BIBLIOGRAPHY, AND TECHNOLOGY. OTHER AREAS COVERED BY SPECIFIC RECOMMENDATIONS ARE: THE LIBRARY OF CONGRESS, THE CENTER FOR RESEARCH LIBRARIES, DURABLE PAPER, AND ALL TYPES OF FINANCIAL SUPPORT. INCLUDED ARE THE COMPLETE TEXTS OF THREE COMMISSIONED PAPERS, COVERING BIBLIOGRAPHICAL CONTROL, TECHNOLOGY, AND THE FEDERAL GOVERNMENT. A DISCUSSION OF COPYRIGHT IS APPENDED. (JB).

Committee thinks that at present cataloging is often too slow to serve the needs of scholarship. "Clearly it is now reasonable to expect that research library catalogs will eventually move from card files into computerized form, but it is unrealistic to suppose that this will come as a single step; the beginning, presumable, will be made with data for current publications. This might well be followed by putting the Library of Congress catalog onto computer tapes (or their successors) and enabling other research libraries to draw from the tapes, for their own automated catalogs, data for those books of which they have copies. At the same time, they would add to the tapes data for those of their holdings that were not represented at the Library of Congress. This procedure would minimize duplication of effort in putting catalog data into machine-readable form; eventually it would also produce a completed, revised, and greatly improved National Union Catalog. This Catalog, since it presumably could be consulted electronically from a distance or through duplicate local stores of machine-readable data, might never need to be reproduced and disseminated in book form."(p.28) "Valuable experience is also being accumulated as work continues on projects such as Harvard's shelflist automation, the University of Chicago's 'integrated, computer-based, bibliographical data system,' and Project INTREX at the Massachusetts Institute of Technology. Harvard is transferring its handwritten, loose-leaf shelflist to machine-readable punched cards and publishing printouts which the computer produces in three sequences: a classified arrangement, alphabetically by author, and chronologically by date of publication. Chicago, with the help of a National Science Foundation grant, is attempting to combine into a computer-accessible, permanent record all elements of information about each book or other bibliographical item added to the library; the stored information will be used for many purposes--to determine holdings, prepare orders, maintain acquisition files, generate acquisition lists, prepare charge cards and labels, and produce full sets of catalog cards. M.I.T. is experimenting with its 125,000-volume Engineering

Library in providing scholars with remote access to a computer-controlled magnetic memory store of bibliographical information on books and other library materials; consultation is to be through consoles linked to a central computer by ordinary telephone lines."(p.28-9)

* Ampex Corporation. [Brochure on Videofile System]

"Analysis of cost factors in the automation of library catalogs." (In Dolby, J. L. and others. Computerized library catalogs. M.I.T. Press, 1969, pp.23-52.)

Discusses cost factors in order of importance, i.e. cost to user, cost of programming, cost of hardware, cost of conversion. ("The central role of the catalog in any library operation suggests that no library maintaining a manually operated catalog can be said to be automated in a meaningful sense.") Conclusions are based on these basic observations: (1) now technically feasible to automate library cataloging operations. (2) libraries expanding exponentially. (3) personnel salaries growing exponentially. (4) computing equipment costs are decreasing exponentially. Hence, question (even discounting advantages--and real cost savings--to user) is not whether libraries should automate their cataloging operations, but when. Most serious cost factor is cost of converting retrospective file compared to the annual budget of the library. Work at Harvard and Rochester suggests that good strategies exist for spreading out work and still obtaining substantial short run benefits both for library and library user. Includes "quick reference table for calculating input costs", based on 1969 data.

Avram, Henriette D., "Automation in technical processing at the Library of Congress," Bowker annual of library & book trade information, 1972:80-85.

Emphasis on MARC, RECON, and FORMAT RECOGNITION (which aids with machine editing of bibliographic records). Brief mention of "several projects under way to produce book catalogs from machine records."

\# Avram, Henriette D., "Library automation," Annual Review of Information Science and Technology, 6:171-217 (1971).

Discussion of progress during 1970. Includes 202 items in "References".

* Avram, Henriette D., "Library automation: a balanced view," LR&TS, 16:11-18 (Winter 1972).

"Ellsworth Mason's two recently published papers, severely criticizing library automation, are refuted on the basis that he presents a biased view. Many of his opinions are expressed as blanket statements which require qualification to reflect the total picture. In addition, while admitting to the failures and problems, this paper presents the positive accomplishments in a brief evaluation of the status of library automation in 1971." Includes brief bibliography.

* Axford, H. William, "An approach to performance budgeting at the Florida Atlantic University Library," Col & Res Libs, 32:87-104 (March 1971).

"The article summarizes the problems encountered at the FAU library in 1967 and the library's subsequent reorganization. A detailed cost study is analyzed and the Clapp-Jordan and University of Washington formulae for budgeting are described, as well as a modified formula. The resulting program performance budgeting system is now in use by the state university of Florida."

Bennett, John L., "Interactive bibliographic search as a challenge to interface design." (In Walker, Donald E., ed. Interactive bibliographic search: the user/computer interface. AFIPS Press, Monvale, N. J., 1971, pp.1-18.)

In the future, the user and the computer will play complementary roles. It is necessary for the systems designer to overcome confusion in terminology: software designers must learn to build on the work of others.

* "Bibliography of literature on planned or implemented automated library products: Cataloging applications," LARC, v.9, pt.1:19-29 (1973).

* Billingsley, Alice, comp., "Bibliography of library automation," American libraries, 3(3):289-312 (March 1972).

"...compiled as an updating of the bibliography by Charlene Mason which appeared in the ALA Bulletin, September 1969 (pp. 1117-1134)."

Black, Donald V. & Earl A. Farley, "Library automation," Annual Review of Information Science and Technology, 1:273-303 (1966).

Discussion of progress during 1965. Includes 66 items in "References".

Bolef, Doris, "Computer-output microfilm," Special Libraries, 65:169-75 (Apr. 1974).

"Computer output in microfilm or microfiche form (COM) rather than computer printout and conventional forms of reproduction is one possible way special librarians can reduce their costs, space needs, and time lags. COM is described along with the equipment needed, where to find it, and experiences of one special library [Washington University School of Medicine]. Possible savings are compared with additional reading and special reproduction equipment required as well as the advantages and disadvantages to be weighed in deciding on COM."

* Bregzis, Ritvars, Machine readable bibliographic records: criteria and creation. Review ser. 4. Educational Resources Information Center. Library School, Univ. of Minnesota. May 1970. 28 p.
ERIC: ED 039 388

Good discussion of the special features of library automation, emphasizing the centrality of bibliographic records. Library automation is essentially bibliographic file oriented and not procedure oriented. Cost data are considered and the general lack of comparability is discussed. Notes that production of full bibliographic records is costly, but it doesn't exceed the cost range for LC copy cataloging. No indication that machine-readable bibliographic record is more economic than manual counterparts, but they are capable of supporting enhanced service effectiveness. Includes bibliography.

Buckland, Lawrence F. & Mary Madden. Investigation of the searching efficiency and cost of creating a remote access catalog for the New York State Library. Final report. Inforonics, Inc., Maynard, Mass.; New York State Library, Albany. 22 Dec. 1972. 77 p.
ERIC: ED 073 782

ERIC ABSTRACT: From experimental work performed, and reported upon in this document, it is concluded that converting the New York State Library (NYSL) shelf list sample to machine readable form, and searching this shelf list using a remote access catalog are technically sound concepts though the capital costs of data conversion and system installation will be substantial. The two primary areas of investigation covered in this report are: (1) pilot conversion to machine readable form of a portion of the NYSL shelf list; the purpose of this conversion process itself being the creation of a file of machine readable records which can be searched by a computer under the control of a telecommunication computer terminal. The purpose of the pilot conversion test is to determine costs of conversion, and any unusual technical problems; and (2) experimentation with, and use of, the initial product of the pilot conversion in catalog searching. The purpose of the search test is to determine technical feasibility of the search process where a user must formulate a query as a logical combination of alphabetic search words, a process far different than the mental eye-brain scanning of entries on catalog cards.

Buckland, Lawrence F. and others. Survey of automated library systems; Phase I. Final report. California State Univ. and Colleges, Los Angeles. Library Systems Project; Inforonics, Inc., Maynard, Mass. 13 Apr. 1973. 190 p., 53 references.
ERIC: ED 078 849

"...results of a survey of 27 libraries which had in operation 40 mechanized systems for acquisition, cataloging and circulation control. ...The data describing each library activity was collected by an interview consisting of a presentation by the library staff and the completion of a questionnaire. A bibliography of published system descriptions and
* a directory of addresses and telephone numbers of the principal staff members of the libraries visited is included..." Directory and full abstract are included in the reading file.

* Buckle, D. G. R. & Thomas French, "The application of microform to manual and machine-readable catalogues," Program, 6(3):187-203 (July 1972).

Describes microfilm catalog system being implemented at Birmingham (England) University. Basic manual catalog was closed at end of 1971 and was to be filmed; filming of closed catalog would be redone annually to take care of withdrawals, etc. The new post-1971 machine-readable catalog was to be issued in COM (computer output on microfilm). In both cases, medium was to be 16-mm film in cassettes. Costs in the British environment are included, together with much additional information, e.g. why 16-mm cassettes were chosen in preference to another microform. Discussion is specific, with emphasis on equipment and methods.

The California State University and Colleges. Library Systems Project. Survey of library automation systems. Phase I, Final report. Inforonics, Inc., Maynard, Mass., 1973. 53 p., [ca.100 p. of appendices]

* [Appendix]: System overview (Cataloging). Library U.

Summary of NYPL system. Complete work is survey of 26 systems. Sample questionnaire is included.

\# Cartwright, Kelley L. & Ralph M. Shoffner. Catalogs in book form: a research study of their implications for the California State Library and the California Union Catalog, with a design for their implementation. Institute of Library Research, Univ. of California, January 1967. 69 p. & appendices.

Complete and explicit manual for conversion to a computer produced book catalog. Potential for obtaining advantages of union listings is pointed out. Completeness of bibliographic records is emphasized.

Chapin, R. E. & D. H. Pretzer, "Comparative costs of converting shelf list records to machine readable form," Jour of Lib Automation, 1:66-74 (March 1968).

Study at Michigan State Univ. Library. Methods costed were: keypunching, papertape typewriter and optical scanning by service bureau. Papertape was most expensive, other two cost the same. Record converted: call no., copy no., 1st 39 letters of author's name, 1st 43 letters of title, & date of publication.

Chicago. University. Graduate Library School. Requirements study for future catalogs. Progress report no.2. National Science Foundation, Washington, D. C. Report No-NSF-GN-432. March 1968. 224 p.
ERIC: ED 022 508

ERIC ABSTRACT: ...findings of the book-memory experiment designed to measure certain impressions persons retain after a single examination of a book....The primary objective of this phase of research was to identify those characteristics of books which are often enough remembered to be of potential use as retrieval clues....

Childers, Thomas, and others. Book catalog and card catalog--a cost and service study. Baltimore County Public Library, Towson, Md., March 1967. 55 p.
ERIC: ED 019 099

Expansion of library system and establishment of new branches led to need for branch catalogs. In beginning, did not duplicate original catalog; used materials purchased after 1959. Used finding list approach (short cataloging). First book catalog produced by computer for public library. Includes costing data.

Clinic on Library Applications of Data Processing, 1972, University of Illinois. Proceedings: applications of on-line computers to library problems; ed. by F. W. Lancaster. Univ. of Illinois, Graduate School of Library Science; C. Bingley, 1972. 169 p. [also ERIC: ED 072 825]

Includes 'Shawnee Mission's On-line Cataloging System' which results in computer printed catalog cards.

"Computer hook-up," American Libraries, 5:16-7 (Jan. 1974).

The Interuniversity Council of North Texas (more than 12 universities and colleges) has installed a telephone line hook-up with OCLC for cataloging. OCLC computer data for a particular title will be brought up on a cathode ray terminal to be verified or modified by the participating library. Completed catalog card will come through by mail. Potential savings are anticipated at $1.70 per book.

* Cooper, William S., "The potential usefulness of catalog access points other than author, title, and subject," Journal of the American Society for Information Science, 21(2):112-127 (Mar.-Apr. 1970).

"Library patrons who wish to obtain a known document with which they have had prior personal contact often cannot remember the standard author-title-subject information about it with sufficient accuracy to be able to look it up easily in present-day card catalogs. However, they may remember a surprising amount of such "nonstandard" information as the color of the document's cover or its approximate length. Could this type of "nonstandard" information be profitably exploited in computerized catalogs of the future? Such facilities, if available, would surely be used, for according to catalog usage surveys a majority of today's library patrons seek known documents, and of these, a substantial minority possess nonstandard information. In this report, the results of a memory experiment to test the memorability of various types of nonstandard information are described and analyzed. A ranking according to relative memorability and potential retrieval usefulness of various nonstandard book features is given. It is estimated that if the average patron's nonstandard information were exploited by appropriate retrieval stategies, he would only have to search through roughly one five-hundredth as many documents as in a random search. This reduction factor is great enough to make nonstandard information potentially useful in many situations."

Cox, N. S. M., "On the introduction of machine-processable centralized cataloguing services to libraries." (In Interface: library automation with special reference to computing activity. Oriel Pr., MIT Pr., 1971, pp.146-78.)

Warns against "uncontrolled development" of central services. Hypothetical in tone: costs are given in British pounds: describes British MARC record service and limited service given by BNB, which should foster service.

Cox, N. S. M. & C. K. Balmforth. "Some notes on costs and benefits." (In Interface: library automation with special reference to computing activity. Oriel Press; MIT Press, 1971, pp.216-223.)

Very basic and specific essay using the library framework to encompass switching from 'manuscript' system to typewriter.

Cuadra, C. A., "Commercial service approach to library automation." (In Collaborative library systems development. MIT Press, 1971, pp.110-117.)

Discussion of: (1) outside computer firm's (service bureau) consulting with library; (2) giving continuous service to library; (3) providing libraries with ready-made computer programs.

* De Gennaro, Richard, "Harvard University's Widener Library shelflist conversion and publication program," College & Research Libraries, 31:318-31 (Sept. 1970).

"...briefly reviews the essential background and reports on the progress, evolution and future outlook of this unique program. It then describes in some detail the present and potential uses that can be made of the shelflist of a major research library after it has been converted to machine readable form and can be manipulated by computer. The uses fall into two broad categories: publications and reader services, and library management and statistical uses. It is a non-technical article for librarians and library users." An interesting approach to automation.

Densmore, Glen & Charles Bourne. A cost analysis and utilization study of the Stanford University Library system, prepared for Stanford University. Memorandum report. Stanford Research Inst., Menlo Park, Calif., Feb. 1965. 38 p.
ERIC: ED 026 080

THIS STUDY WAS CONDUCTED TO DETERMINE WHAT FRACTION OF THE TOTAL COST OF THE STANFORD UNIVERSITY LIBRARY SYSTEM CAN PROPERLY BE CHARGED TO EACH OF THE FOUR MAJOR GROUPS OF USERS: UNDERGRADUATE STUDENTS, GRADUATE STUDENTS, FACULTY AND STAFF, AND NON-STANFORD USERS. EIGHT SEPARATE COST ELEMENTS WERE DEVELOPED FOR EACH OF THE LIBRARY'S COST CENTERS OR SERVICE FACILITIES FROM ACTUAL COST DATA PROVIDED BY THE UNIVERSITY CONTROLLER'S OFFICE. THESE COST ELEMENTS WERE: SALARIES AND BENEFITS, BOOKS, PERIODICALS, BINDING, SUPPLIES AND EXPENSES, OPERATING AND MAINTENANCE, BUILDING AND EQUIPMENT DEPRECIATION, AND UNIVERSITY ADMINISTRATION. STATISTICS COVERING CIRCULATION BY USER GROUPS AND CAMPUS POPULATION DISTRIBUTION BY USER GROUPS WERE COLLECTED FOR EACH BY THE INDIVIDUAL FACILITIES, AND THESE CIRCULATION AND POPULATION STATISTICS WERE THEN USED TO MAKE A PRELIMINARY ALLOCATION OF THE SPECIFIED COST ELEMENTS TO THE FOUR USER GROUPS. FOLLOWING THIS PRELIMINARY ALLOCATION, THE MANNER FOR ALLOCATING THE COST ELEMENTS TO USER GROUPS WAS OUTLINED. IN ORDER TO AID THE ALLOCATION OF COST ELEMENTS, FIVE SPECIAL STUDIES WERE MADE WHICH COVERED: CIRCULATION, POPULATION DISTRIBUTION, THE CATALOGING AND ACQUISITION DIVISIONS, SALARIES AND BENEFITS, AND SPACE UTILIZATION. THE FINAL TASK PERFORMED WAS THE ALLOCATION OF COST ELEMENTS FOR EACH FACILITY OR COST CENTER TO THE APPROPRIATE USER GROUP OR GROUPS. (AUTHOR/JB).

Dolby, J. L., & V. J. Forsyth, "Analysis of cost factors in maintaining and updating card catalogs," Journal of Library Automation, 2:218-41 (Dec. 1969).

"This study enumerated and compares cost of manual and computerized catalogs. The difficulties of making comparative cost studies are examined. The report concentrates on the problems of cost element definition and on the reporting of as many comparable sources as possible. Results of cost studies are presented in the form of tables that show comparative costs of

cataloging, card processing, conversion, and manual and computerized processing. There are also tables on card catalog costs. Conclusions are that the costs of manual and automated methods are essentially the same for short entries, and that there is a substantial economic advantage for automated methods in full entries."

Dolby, J. L., V. J. Forsyth, & H. L. Resnikoff. Computerized library catalogs: their growth, cost, and utility. MIT Press, 1969. ix,164 p.
* "Preface & Introduction,"pp.vii-19.

Attempts to analyze large library growth. Includes some conversion cost estimates and a list of 13 specific recommendations for automating library catalogs.

Also contains: "An analysis of cost factors in the automation of library catalogs," [SEE "Analysis..."]; "The influence of typography on the cost of printed catalogs," pp.61-70; and some interesting chapters on Acquisi- rates related to National Economic Growth, etc. However, no specific automated catalogs are referred to.

Dolby, J. L., and others. The cost of maintaining and updating library card catalogs. Final report. Los Altos, R & D Consultants. May 1969. 127 p.
ERIC: ED 035 432

Pt. 1 discusses library growth in relation to users and supporters. Automation is essential if we are to keep pace with library growth and development. Libraries using full form of catalog or multiple copies of catalogs will find it economically advantageous to automate. Major university libraries double their collections every 23 years. Pt. 2 analyzes cost factors in maintaining and updating card catalogs (data gathered over 4 years; includes university and large public libraries). Includes bibliography on cost studies. Very good for background.

Epstein, A. H., and others. Bibliographic automation of large library operations using a time-sharing system: Phase I. Final report. Stanford Univ., Calif. Libraries, Apr. 1971. 334 p.
ERIC: ED 049 786

THE FIRST PHASE OF AN ONGOING LIBRARY AUTOMATION PROJECT AT STANFORD UNIVERSITY IS DESCRIBED. PROJECT BALLOTS (BIBLIOGRAPHIC AUTOMATION OF LARGE LIBRARY OPERATIONS USING A TIME-SHARING SYSTEM) SEEKS TO AUTOMATE THE ACQUISITION AND CATALOGING FUNCTIONS OF A LARGE LIBRARY USING AN ON-LINE TIME-SHARING COMPUTER. THE MAIN OBJECTIVES ARE TO CONTROL RISING TECHNICAL PROCESSING COSTS AND AT THE SAME TIME TO PROVIDE IMPROVED LEVELS OF SERVICE. PHASE I PRODUCED A PROTOTYPE SYSTEM THAT OPERATED IN THE LIBRARY USING TYPEWRITER TERMINALS. DATA PREPARATION AND DATA CONTROL UNITS WERE ESTABLISHED; REGULAR LIBRARY STAFF WERE TRAINED IN ON-LINE INPUT AND SEARCHING. AFTER A NINE MONTH PERIOD OF OPERATION, THE ENTIRE SYSTEM WAS EVALUATED. THE REQUIREMENTS OF A PRODUCTION LIBRARY AUTOMATION SYSTEM WERE THEN DEFINED. FINDINGS ARE PRESENTED ON SHARED FACILITIES, ECONOMY AND FILE INTEGRITY, THE PERFORMANCE OF ON-LINE SEARCHING, TERMINAL PERFORMANCE, STAFF AND RESOURCE COMMITMENTS, TRANSFERABILITY, AND THE HUMAN ASPECTS OF SYSTEM DEVELOPMENT. RECOMMENDATIONS ARE PRESENTED WITH RESPECT TO FEASIBILITY, ECONOMIC FACTORS, MANAGEMENT, STAFFING, DOCUMENTATION, TERMINAL EQUIPMENT, AND NATIONAL PLANNING. (AUTHOR).

Ferguson, Douglas, ed. Information retrieval (SPIRES) and library automation (BALLOTS) at Stanford University. Stanford Univ., Computation Center, Nov. 1970. 16 p.
ERIC: ED 044 049

AT STANFORD UNIVERSITY, TWO MAJOR PROJECTS HAVE BEEN INVOLVED JOINTLY IN LIBRARY AUTOMATION AND INFORMATION RETRIEVAL SINCE 1968: BALLOTS (BIBLIOGRAPHIC AUTOMATION OF LARGE LIBRARY OPERATIONS) AND SPIRES (STANFORD PHYSICS INFORMATION RETRIEVAL SYSTEM). IN EARLY 1969, TWO PROTOTYPE APPLICATIONS WERE ACTIVATED USING THE JOINTLY DEVELOPED SYSTEMS SOFTWARE: AN ACQUISITION SYSTEM IN THE MAIN LIBRARY (BALLOTS I) AND A BIBLIOGRAPHIC RETRIEVAL SYSTEM (SPIRES I) IN THE STANFORD LINEAR ACCELERATOR CENTER (SLAC) LIBRARY. THE GOALS FOR BALLOTS II ARE: RESPONSIVENESS TO LIBRARY USERS, EFFICIENT OPERATION, GENERALITY, PERFORMANCE MONITORING, AND FLEXIBILITY FOR FUTURE IMPROVEMENT. FOR SPIRES II, THE GOALS ARE RELATED TO FIVE AREAS: DATA SOURCE AND CONTENT, COST AND CUSTOMERS, SEARCH FACILITIES, FEEDBACK, AND RECORD MODIFICATION. THE WORK OF SPIRES AND BALLOTS HAS POTENTIAL BEYOND ITS IMMEDIATE APPLICATIONS. IT CAN SUPPORT SOCIALLY SIGNIFICANT RESEARCH, AS IN THE FIELDS OF ECOLOGY AND URBAN STUDIES; AND WITH REMOTE TERMINALS, IT CAN PROVIDE INFORMATION QUICKLY AND AT THE SITE OF RESEARCH. SUCH A COMPREHENSIVE INFORMATION FACILITY WOULD BE, IN A SENSE, AN "EXTENDED LIBRARY;" AND RECEIVING DAILY USE, IT COULD BE OFFERED AT A FAVORABLE COST-BENEFIT RATIO. (MF).

Includes bibliography.

Five Associated University Libraries. MASFILE-I pilot project. Final report. Syracuse, N. Y., 11 Apr. 1969. 35 p.
ERIC: ED 028 801

THE OBJECTIVES OF THE MASFILE-I PILOT PROJECT WERE (1) TO TEST THE UTILITY AND COST OF COMPILING A MANIPULATIVE DATA BASE FROM REMOTE CARD FILES; (2) TO TEST THE UTILITY OF THE ADMINISTRATIVE TERMINAL SYSTEM (ATS) FOR INPUTTING BIBLIOGRAPHIC DATA INTO COMPUTER FILES FROM CATALOG CARD COPY AT A CENTRAL LOCATION; (3) TO TEST THE ADEQUACY OF A MODIFIED MARC TAGGING SCHEME FOR LABELLING, INPUTTING, AND RETRIEVING FORMATTED BIBLIOGRAPHIC DATA ELEMENTS; (4) TO DETERMINE OVERLAP OF ITEMS IN THE FILE; (5) TO AID THE FIVE ASSOCIATED UNIVERSITY LIBRARIES (F.A.U.L.) IN DESIGNING A COMPATIBLE WORKSHEET FOR TRANSFERRING THE INTELLECTUAL PRODUCT OF LOCAL CATALOGERS INTO VARIOUS ON-LINE AND OFF-LINE MACHINES; (6) TO DEVELOP RECOMMENDATIONS FOR BUILDING A BIBLIOGRAPHIC DATA BASE. A SEQUENTIAL SAMPLE OF SHELF LIST CATALOG CARDS WAS SELECTED FROM EACH F.A. U.L. LIBRARY IN THE LIBRARY OF CONGRESS CLASSIFICATION FOR THE BOOK TRADE AND LIBRARY SCIENCE (Z116-Z1000.5), MANUALLY MERGED, CONVERTED TO MACHINE READABLE FORM BY THE IBM ATS SYSTEM AT SUNY-BUFFALO IN A MODIFIED MARC-I FORMAT. AFTER EDITING, A LIST OF 1827 ITEMS WAS PUBLISHED CONTAINING FULL CITATIONS, HOLDINGS STATEMENTS, AND INDEXES BY MAIN ENTRY, LC CARD NUMBER, AND LC CLASS NUMBER. A DRAFT CATALOGER'S WORKSHEET WAS DESIGNED AND IS UNDERGOING TESTING. OVERLAP STUDIES WERE MADE, AND TIME AND COST FIGURES COMPILED. RECOMMENDATIONS FOR CONTINUATION OF THE PROJECT (MASFILE-II) ARE ALSO INCLUDED. (AUTHOR).

F.A.U.L.: Birmingham, Buffalo, Cornell, Rochester, Syracuse.

Five Associated University Libraries. MASFILE--II pilot project. Final report. F.A.U.L., Syracuse, N.Y.; State Univ. of New York, Buffalo, June 1970. 47 p.
ERIC: ED 051 826

THE REPORT PREPARED FOR THE FIVE ASSOCIATED UNIVERSITY LIBRARIES (FAUL) BY THE TECHNICAL INFORMATION DISSEMINATION BUREAU (TIDB) AT SUNY-BUFFALO IS DIVIDED INTO NINE SECTIONS: (1) A SUMMARY OF PROCEDURES USED TO ACCOMPLISH THE SPECIFIED MASFILE-II TASKS; (2) A GRAPHIC COMPARISON OF THE MARC-II AND THE MASFILE-II FORMATS; (3) RECOMMEND MODIFICATIONS TO THE FAUL MASFILE-II RECORD NEEDED TO TRANSMIT RECORDS FROM THE MASFILE COMPUTER TO LOCAL TERMINALS OR LINE PRINTERS IN THE MARC-II FORMAT; (4) RECOMMEND DATA ELEMENTS WHICH MUST BE RESIDENT IN A MASFILE-II RECORD TO PRODUCE PRODUCTS AS SPECIFIED BY THE FAUL SYSTEMS COMMITTEE; (5) RECOMMEND WORKABLE PROCEDURES FOR EACH FAUL LIBRARY TO MODIFY MASFILE-II RECORDS IN A CENTRAL COMPUTER ON A ROUTINE BASIS; (6) RECOMMEND WORKABLE PROCEDURES FOR ADDING CURRENT LOCAL RECORDS INTO MASFILE; (7) RECOMMEND WORKABLE METHODS FOR IDENTIFYING AND SELECTING SPECIFIC RECORDS AND GROUPS OF RECORDS FROM MASFILE TO PRODUCE LISTS ORGANIZED BY SUBJECT, CLASS NUMBER, OR MAIN ENTRY; (8) ISOLATE MAJOR PROBLEM AREAS RESULTING FROM THIS PROJECT AND (9) SUMMARIZE TIME SPENT AND ACTIVITIES PERFORMED IN COMPUTER TESTING, PROGRAM RUNS, CLERICAL OPERATIONS, AND PROFESSIONAL TIME. (MASFILE-I PILOT PROJECT IS AVAILABLE AS ED 028 801). (AUTHOR/NH).

* Fraser, Walter J., "Closing the catalog: the Library of Congress and the future of cataloging practice," Wilson Library Bulletin, 46:836-38 (May 1972).

(1) "Closing the catalog at LC means closing almost every catalog in the nation as well as a large number of catalogs in the rest of the world." (2) An opportunity to bring the card format up for review and to redesign the classification system. Also, an opportunity to redesign subject headings. (3) Questions who will handle retrospective MARC if catalog is closed; questions if RECON will be abandoned. (4) "The longer any catalog exists, the more difficult it becomes to handle new materials intelligently. The longer the past is embedded in the catalog, the greater the deference which must be accorded to that past by the present.... Let us never again seek to house as large a time span of the bibliographic record in a single catalog as we have up to now."

* French, Thomas, "Conversion of library card catalogues," Program, 5(2):41-66 (May 1971).

"A survey of some means--mostly photographic or mechanised--of converting a large card catalogue to book form. Details are those calculated for the Main Library catalogues at Birmingham University." Discussion in outline form, with time and cost estimates, of various methods of catalog closure and conversion for retrospective catalog of Birmingham University; includes advantages and disadvantages and annotated bibliography. Cost data probably irrelevant to us since (1) it's British and a couple of years old and (2) much of our retrospective catalog is already "converted", i.e. in G.K. Hall format, one of French's alternatives. Article itself is useful, however, both for its summary of many options and for the way in which it lays these out, as well as for its bibliography of the older material.

Gaines, K., "Undertaking a subject catalog in microfiche," Library Resources & Technical Services, 15:297-308 (Summer 1971).

Describes system used in Ramapo Catskill library system, involving 178 microfiche with approximately 60,000 subject entries. Includes arguments in favor of negative microfiche in such a system. Not particularly relevant to Subgroup's work.

Griffin, Hillis L., "Automation of technical processes in libraries," Annual Review of Information Science and Technology, 3:241-62 (1968).

Discussion of progress during 1967. Includes 51 items in "References."

Griffin, H. L., "Estimating data processing costs in libraries," College & Research Libraries, 25:400-3/ (Sept. 1964).

Costs for EDP cannot be extended without qualification from one library to another, because time and equipment charges, internal costs, etc. vary so widely, but one factor of EDP remains constant for 2 libraries using same computer system and same program and that is operating time. Essential advantages of computer-based system (using system broadly) are: (1) ability to use the same information in many ways for a variety of purposes and (2) ability to perform tasks quickly, easily and accurately. Rather elementary discussion--not particularly useful for Working Group.

Grosch, A. N., "Implications of on-line systems techniques for a decentralized research library system," College & Research Libraries, 30:112-18 (March 1969).

Background information. General in scope: talks about sharing libraries in large systems, connected in on-line fashion, without any examples of operating systems.

Hamann, E. G., "Expansion of the public card catalog in a large library," Library Resources & Technical Services, 16:488-96 (Fall 1972).

Describes shifting the card catalog at Olin Library, Cornell University, a shift of 5 to 5.5 million cards. Gives the cost as $1,606 for 603 hours.

Harris, Jessica L., "Programming the library catalog," Drexel Library Quarterly, 5:84-91 (Apr. 1968). Reprinted in Tauber, Maurice F. & Hilda Feinberg, Book catalogs, Scarecrow Pr., 1971, pp.346-56.

Account of the Farmingdale (N. Y.) School System for junior high schools. Not useful except for general cautions, i.e. that it is important to run the old system in parallel until new system is fully operating.

Hayes, R. M., and others, "Economics of book catalog production," Library Resources & Technical Services, 10:57-90 (Winter 1966).

Based on 110 page study with same title pub. in 1964; this article was read in lieu of the longer study. Study done for Stanford Undergraduate Library. Discusses briefly the rationale for a book catalog, methods for producing book form of catalog, allocation of costs, quality of typography and situation at Stanford Undergraduate Library. Includes equations.

Hayes, R. M. & R. M. Shoffner. Economics of book catalog production; a study prepared for Stanford University libraries and the Council on Library Resources. Sherman Oaks, Calif., Advanced Information Systems Div. Hughes Dynamics, 1964. 110 p.

Included bibliography. A summarized article based on this study was published, with same title, in 1966. See card for that article for annotation.

Heinritz, F. J., "Book versus card catalog costs: Summary," Library Resources & Technical Services, 7:229-35 (Summer 1963).

Summary of Thesis (Ph.D), Rutgers Univ., with same title, 1963. 150 p.

Summary article read. To provide comparability, this study was done at Engineering Index, Inc. which produced output both on cards and in book form. Author's conclusion was that book form was much cheaper than card form, and also cheaper than a combination card/book form. Even though a searching charge differential is levied vs. the book form, this is far outweighed by the book's savings in production, distribution, filing, storage, and housing. Author warns against considering isolated facts or costs out of context.

"Joint project between Dartmouth and OCLC," College & Research Libraries News, no.3:49 (Mar. 1972).

(1) Practical application through long-distance operation and testing of a computer-based system designed to achieve a cheaper, more efficient production of catalog-card records for library use. (2) Magnetic tape from LC input to a computer via telephone at OCLC CRT at Dartmouth. (3) Query through (a) LC card no., (b) 1st 3 letters of author's name and 1st 3 letters of first word of title, (c) first 3 letters of 1st 4 words of title. (4) Funded by NELINET ($53,589) grant from Council on Library Resources. (5) Cards delivered according to needs of Dartmouth, in filing order.

Jolliffe, J. W., "Some problems of maintaining a computer edition of the General catalogue of printed books," Libri, 21(1-3):109-17 (1971).

Stress is on conversion of British Museum Catalogue of printed books, and format peculiarities unique to it.

Jolliffe, J. W., "Tactics of converting a catalogue to machine readable form," Journal of Documentation, 24:149-58 (Sept. 1968).

Irrelevant--deals with possibility of converting a catalog in Gt. Brit. by use of clerical help who would base decisions on the specific typography used in the printed British Museum catalog. Claims to be a British answer to proposals made by American De Gennaro in 1967 article which was not in MR's group, and says that De Gennaro approach o.k. for U.S. but not Britain.

Kieffer, Paula, "The Baltimore County Public Library book catalog," Library Resources & Technical Services, 10:133-41 (Spring 1966).

Includes a history of the project, with a sample page of the catalog. Refers to a paper dealing with the administrative decision to choose computer process: Robinson, Charles W., "The book catalog: diving in," Wilson Library Bulletin, 40:262-8 (Nov. 1965).

Kieffer, Paula, "Book catalog: to have or not to have," Library Resources & Technical Services, 15(3):290-6 (Summer 1971).

"Twenty-nine questions to be asked before deciding on a book catalog, with comments based on the experience of the Baltimore County Public Library." The Baltimore Co. PL has a computer produced book catalog.

Kilgour, Frederick G., "Computer-based systems, a new dimension to library cooperation," College & Research Libraries, 34:137-43 (Mar. 1973).

Emphasis is on need for networks, such as OCLC. No mention of automated card catalogs. Good up-date.

Henderson, James W. & Joseph A. Rosenthal, eds. Library catalogs: their preservation and maintenance by photographic and automated techniques; a study by the Research Libraries of the New York Public Library under a grant from the Council on Library Resources. M.I.T. Report No. 14. 1968. 267 p.

THE REPORT DEALS WITH ONE BASIC QUESTION: WHAT DOES A LARGE RESEARCH LIBRARY DO WHEN ITS CATALOG SHOWS SIGNS OF SERIOUS DETERIORATION? THE CATALOG UNDER CONSIDERATION IN THIS REPORT WAS THE MAIN PUBLIC CATALOG OF THE RESEARCH LIBRARIES OF THE NEW YORK PUBLIC LIBRARY. THE CATALOG HAS NINE MILLION CARDS, SOME OF WHICH DATE BACK TO 1857. A 1965 REPORT BY SEOUD MATTA, "THE CARD CATALOG IN A LARGE RESEARCH LIBRARY: PRESENT CONDITIONS AND FUTURE POSSIBILITIES IN THE NEW YORK PUBLIC LIBRARY", RECOMMENDED PUTTING THE CATALOG INTO BOOK FORM IN ORDER TO PRESERVE IT. THIS REPORT IS DEVOTED TO THE TECHNICAL DETAILS OF PRESERVING THE PRESENT CATALOG AND PLANNING FOR THE FUTURE. MAJOR CONCLUSIONS OF THE STUDY ARE THAT: (1) THE CATALOGS OF THE RESEARCH LIBRARIES OF THE NEW YORK PUBLIC LIBRARY BE DIVIDED CHRONOLOGICALLY AS SOON AS POSSIBLE; (2) THE PRESENT (OR RETROSPECTIVE) PUBLIC CATALOG BE REPRODUCED PHOTOGRAPHICALLY IN BOOK FORM; (3) THE FUTURE (OR PROSPECTIVE) CATALOGS BE PRODUCED IN A COMBINATION OF CARD AND BOOK FORM FROM A STORE OF MACHINE-READABLE DATA; AND (4) A CENTRAL SERIAL RECORD BE CREATED TO CONTAIN ACQUISITION INFORMATION, CATALOGING AND HOLDINGS DATA, AND BINDERY RECORDS FOR ALL SERIAL PUBLICATIONS IN THE RESEARCH LIBRARIES. (AUTHOR/CC).

Prompted by deterioration of NYPL catalog, the 'Matta Report' gave two options: (1) photograph the present catalog, and (2) convert it to machine readable form for generation of a book catalog. The greater part of the book is given over to preservation of the present catalog; conclusion is to divide it chronologically as soon as possible. Final decisions: (1) that future catalogs be produced in a combination of card and book form, from machine-readable data; (2) that present (or retrospective) public catalog be reproduced photographically.

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* Hopkins, Judith, "The Ohio College Library Center," Library Resources & Technical Services, 17(3):308-19 (Summer 1973).

"The Ohio College Library Center is a regional library network. Its on-line shared cataloging system has been operational since 18 October 1971, and utilizes cathode ray tube terminals located in the center's fifty-three member libraries. These terminals are connected to the Sigma 5 computer in Columbus by a multiple line, multiple party synchronous transmission telephone network. Between January and June 1972 the system operated at an annual rate of 500,000 works cataloged and over 3,400,000 catalog cards produced. These cards are individualized to fit the requirements of each member and are produced in packs designated for particular catalogs."

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* Johnson, Richard D., "A book catalog at Stanford," Journal of Library Automation, 1:13-50 (Mar. 1968). Reprinted in Tauber, Maurice F. & Hilda Feinberg, Book catalogs, Scarecrow Pr., 1972, pp.134-74.

Includes bibliography. Comprehensive history of the computer-produced book catalog of the J. Henry Meyer Memorial Library for undergraduates at Stanford. System is designed to output: (1) edit list; (2) author & title catalog; (3) subject catalog; (4) shelf list with all tracings & number of volumes & copies & their location. Includes some cost data for first 2 years' experience.

Kilgour, F. G., "Concept of an on-line computerized library catalog," Journal of Library Automation, 3:1-11 (Mar. 1970).

The third section of this article describes a plan for a new style of automated catalog. Then, a discussion of how it will be possible to prepare entries mechanically from title pages for inclusion in such a catalog. More conclusive research on catalog use is needed. Article is highly theoretical, without examples.

* Kilgour, Frederick G., "Evolving, computerizing, personalizing," American Libraries, 3:141-7 (Feb. 1972).

Claims that computers will "re-humanize" libraries. Computer practices allow "individuation" in large systems, such as OCLC. Gives cost per card for automated system (OCLC).

\# Kilgour, Frederick G., "Library automation," Annual Review of Information Science and Technology, 4:305-37 (1969).

Discussion of progress during 1968. Includes 151 items in "References".

* Kochen, Manfred & A. Bertrand Segur, "Effects of cataloging volume at the Library of Congress on the total cataloging costs of American research libraries," Journal of the American Society for Information Science, 21:133-9 (March-April 1970).

A MATHEMATICAL MODEL IS USED TO JUSTIFY HAVING THE LIBRARY OF CONGRESS DO AS MUCH AS POSSIBLE OF ALL THE ORIGINAL CATALOGING FOR U.S. LIBRARIES. IT IS SUGGESTED THAT THE POTENTIAL SAVINGS DUE TO DECREASED DUPLICATION OF EFFORT BY LOCAL LIBRARIES COULD EASILY JUSTIFY THE USE OF A COMPUTER SYSTEM AT LC. (AUTHOR/JB).

Koehler, David W., & Barry N. Shrut. Evaluation of a computer-based cataloging support system for use by the Cornell University Libraries. Cornell University, Graduate School, May 1973. 73 p.
ERIC: ED 077 520

ERIC ABSTRACT: Cornell University Libraries maintains one central technical services processing department which processes all material for endowed division libraries. It is divided into four functional departments: acquisitions, serials, cataloging, and catalog maintenance. This report is concerned with the latter two functions. The present manual system of cataloging books was analyzed to determine the cost per title. The feasibility and cost effectiveness of installing the Ohio College Library Center (OCLC) on-line computer system for cataloging was then analyzed. The authors recommend implementation of the OCLC system by leasing three terminals with a projecte cost savings of $5,000 per year.

Presents comparative evaluation data. Cornell adds about 70,000 titles per year. Uses LC or OCLC cataloging--information is shown on screen and altered to meet individual library's specifications. Cards are produced and mailed--one to two week delivery. Card production simulation study shows 3-4 weeks for book to go through Cat. Dept., & total of 10 weeks to shelf with catalog cards filed. Estimated 25% reduction in cataloging costs with OCLC, & estimated processing time per title 4.4 weeks.

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Kountz, J. C., "Cost comparison of computer versus manual catalog maintenance," Journal of Library Automation, 1:159-77 (Sept. 1968).

"Is a computer assisted catalog system less expensive than its manual counterpart? A method for comparing the two was developed and applied to historical data from the Orange County Public Library. Comparative costs obtained were $.89 per entry for computer assisted catalog maintenance vs. $1.71 for manual maintenance." Analysis gave no consideration to increased level of service, esthetics, practicality, or the subsidiary products of a computerized system. Optimum frequency of bibliographic supplement production is based on the most timely reporting of new title disposition at the least cost. Manual cost per entry is dependent upon no. of manual files being maintained. For Orange County, 26 files (branches), so systemwide manual maintenance was $.72 per entry x 26 = $18.72, plus the $.99 for entry preparation or a grand total of $19.72 per entry, rather than just the $1.71 indicated earlier. Cost per entry in article is for operating system with large no. of branches; it does not include amortization of the capital outlay for "computerization"--design of system, programs, etc. Although savings equal to this amount or more would be realized over a period of time because of reduced clerical operations and attendant burden, a large sum would still have to earmarked for expenditure during a relatively short period with no immediate return.

Kozumplik, W. A. & R. T. Lange, "Computer-produced microfilm library catalog," American Documentation, 18:67-80 (April 1967).

"The philosophy, production, and cost-effectiveness of a computer-generated library catalog [at Lockheed Missiles & Space Company, Sunnyvale, Calif.] is described. This catalog is unique in that it utilizes direct computer to microfilm composition techniques, employing the Stromberg-Carlson 4020. Cost, user acceptance, and by-product capabilities are stressed." Interesting but not copied because of date of publication.

Krikelas, James, "Subject searches using two catalogs: a comparative evaluation," College & Research Libraries, 30:506-17 (Nov. 1969).

"This paper reports the results of a study undertaken to determine if dividing a traditional dictionary catalog would result in an increase in the effective use of university library catalogs. Two catalogs--one in dictionary arrangement, the other divided into subject and non-subject entries--were selected and the appropriate sections matched. Participants were chosen at random from the undergraduate population of the two universities. The results indicated that, for a series of questions representing different levels of difficulty, a change in arrangement from dictionary to divided would not materially assist college undergraduates in finding subject references." Good for background.

Lancaster, F. Wilfred, ed., "Systems design and analysis for libraries," Library Trends, 21(4):462-612 (April 1973).

Excellent collection of articles on topic. May be useful in compiling final report.

Landau, H. B., "Cost analysis of document surrogation: a literature review," American Documentation, 20:302-10 (Oct. 1969).

"A state-of-the-art literature review on the cost of classification, cataloging, indexing, and abstracting has been conducted. It was found that while some data on specific costs are available, the literature is generally found lacking from the point of view of accuracy, completeness, consistency, and availability." Not particularly relevant to Working Group study. Includes a list of recommended cost reporting practices.

* Larkworthy, Graham & Cyril G. Brown, "Library catalogues on microfilm," Library Association Record, 73:231-2 (Dec. 1971).

"An account of the use by Westminster City Libraries (England) of microfilm as the means of reproducing and displaying computer formulated catalogues for public use. The cost, choice of microfilm reader, and user reaction (which has been encouraging) are discussed." Medium used is cassette film.

Lubetzky, Seymour. Principles of cataloging. Los Angeles, Institute of Library Research, Univ. of California, 1969. vii,113 p.

* Chapter entitled Organization of the catalog (pp.74-86).

Includes bibliography. Good analysis of the concepts which affect any division of the catalog.

"MARC and DBPH produce first computer catalog of talking books," Library of Congress Information Bulletin, 31:256-7 (June 1972).

Cites newly produced computerized catalog of talking books in MARC format (4 book catalogs). Copies distributed to regional librarians for the blind and physically handicapped.

* MacDonald, Robin W. & J. McRee Elrod, "An approach to developing computer catalogs," College & Research Libraries, 34:202-8 (May 1973).

"A method of developing computer catalogs is proposed which does not require unit card conversion but rather the accumulation of data from operating programs. It is proposed that the bibliographic and finding functions of the catalog be separated, with the latter being the first automated. Such automation is seen as being advantageous on a cost basis." Advises proceeding from manual system to mixed system to automated system for catalog.

McGrath, William E. & Donald Simon, "Regional numerical union catalog on computer output microfiche," Journal of Library Automation, 5:217-29 (Dec. 1972).

"A union catalog of 1,100,000 books on computer output microfiche (COM) in twenty-one Louisiana libraries is described. The catalog, called LNR for Louisiana Numerical Register, consists not of bibliographic information, but primarily of the LC card number and letter codes for the libraries holding the book. The computer programs, the data bank, and output are described. The programs provide the capability for listing over two million entries. Also described are the statistical tabulations which are a by-product of the system and which provide a rich source for analysis."

Updating proves so easy that they are planning to include retrospective collections of the participating libraries.

* McGregor, James Wilson, "In defense of the dictionary catalog," Library Resources & Technical Services, 15:28-33 (Winter 1971). Also comment by Barbara Coe Johnson in Library Resources & Technical Services, 15:247-8 (Spring 1971).

"The dictionary catalog is described as a logical answer to the inadequacies of the divided catalogs of the nineteenth century. The claims in behalf of a return to the divided catalog are challenged. The author suggests that the divided catalog actually intensifies the problems of congestion and confusion at the catalog. He contends that the dictionary catalog is more compatible with current library practice, avoids redundant entries, eliminates double searching, and is less likely to mislead the library user." Ms. Johnson suggests that a division into "name" and "subject" would be more useful than the usual author/title and subject division.

* Malinconico, S. Michael and James A. Rizzolo, "The New York Public Library automated book catalog subsystem," Journal of Library Automation, 6(1): 3-36 (March 1973).

Good presentation of NYPL program.

\# Markuson, Barbara Evans, "Automation in libraries and information centers," Annual Review of Information Science and Technology, 2:255-84 (1967).

Discussion of progress during 1966. Includes 83 items in "References".

\# Martin, Susan K., "Library automation," Annual Review of Information Science and Technology, 7:243-77 (1972).

Discussion of progress during 1971. Includes 106 items in "References".

Mason, Ellsworth G., "Automation or Russian roulette?" (In Clinic on Library Applications of Data Processing, 1972, University of Illinois. Proceedings: applications of on-line computers to library problems. Univ. of Illinois, Graduate School of Library Science; C. Bingley, 1972, pp.138-56.)

A landmark article: Mason cites the excesses worked upon libraries by 'computerators', the trend to mechanize without accurate cost studies, conflicting answers to basic questions, etc.

* Mason, Ellsworth G., "Computers in libraries," Library Resources & Technical Services, 16:5-10 (Winter 1972).

"In the recent past very powerful forces have emerged in our society whose effect has been to weaken greatly our ability to distinguish between alternatives which are useful and alternatives which are useless. It is argued here that library automation emerged right in the middle of these mental disabilities, was spurred on for personal and institutional ego reasons; its acceptance reflecting a total lack of the critical evaluation that its expense would seem to require." Also contains author's response to various criticisms of his earlier article, "The great gas bubble prick't, or Computers revealed--by a gentleman of quality," College & Research Libraries, 32:183-96 (May 1971). [SEE Avram, Henriette D., "Library automation: a balanced view"]

* Massonneau, Suzanne, "The main entry and the book catalog," Library Resources & Technical Services, 15(4):499-512 (Fall 1971).

"The functions of the main entry in catalog structure are considered with reference to book catalogs. Some situations in which the main entry is of continuing necessity in the catalog are observed, as well as those areas where authorship responsibility must be assigned for other library functions. Excerpts from the book catalog of the J. Henry Meyer Memorial Library, Stanford University, are used to illustrate the conditions which result when the main entry is not used as the basis for the organization of the catalog. The idea that the main entry necessitates the unit entry and vice versa is questioned." Author considers possible elimination of some elements for economy in the production of book catalogs; recommends catalog use studies. "...catalog structure is the most important determinant of catalog effectiveness, and as such it should be granted due consideration."

Massonneau, Suzanne, "Year's work in cataloging and classification," Library Resources & Technical Services, 16:155-64 (Spring 1972).

Brief, sketchy. Cites E. Mason's criticism of computers in Journal of Library Automation.

* Melcher, Daniel, "Cataloging; processing; and automation," American Libraries, 2:701-13 (July/Aug. 1971).

Good discussion of the delays involved in getting cataloging from LC. Points out that none of the savings implicit in MARC or other distribution techniques can benefit anyone until the basic cataloging is done. Also details a number of cautions relative to automation in libraries.

Miele, A. W., "Illinois State library microfilm automated catalog (IMAC)," Illinois Libraries, 54:199-202 (Mar. 1972).

Describes the system, with costs, which as of 1971 involved 59 16-mm cartridges using thin 2 1/2 mil film which allowed 215' per cartridge instead of the usual 100' (on the older 5 mil film). More than one million cards covering 240,000 titles (565,000 volumes) were filmed. Total costs for the Illinois State Library were $18,836 for each of 30 sets. Each holding library provided its own Reader-printer and a cartridge carousel at a cost of approx. $2000. Filmed with rotary camera at 400 cards per minute. Approx. 18 catalog trays filled one cartridge and filming took 29 working days (camera filmed 2 cops at once). Cartridges are odometer indexed to guide cards for every 30 catalog cards (index of guide cards made and batched by cartridge no.); access to any entry can be achieved in 30 seconds. Print-outs can be generated in 6 seconds for 5 cents. Microfilm catalog is divided into retrospective and current (before or after Sept. 1, 1970); cumulated supplements to current are issued quarterly and cartridges for superseded supplements are later re-used. IMAC is primarily designed as an ILL tool, but has many other uses. It is not machine-readable.

Miller, Ellen Wasby, "Shawnee Mission's on-line cataloging system: the first two years." (In Clinic on Library Applications of Data Processing, 1972, University of Illinois. Proceedings: applications of on-line computers to library problems. Univ. of Illinois, Graduate School of Library Science; C. Bingley, 1972, pp.94-108.)

(1) A system for Shawnee Mission (Kansas) public school library system. (2) Description of the on-line system, management issues and reports on plans for future in Journal on Library Automation, 4:13-26 (Mar. 1971). (3) This article discusses file characteristics, costs, availability, data quality, response time, through put time, file usage, daily operations and management implications. (4) NOTEWORTHY: From July 1 through Dec. 31, 8,280 terminal hours scheduled--down only 880 hours, 672 for weekly preventative maintenance on the system 360 (down 10.6% of its schedule), down 2.5% for other than preventative maintenance. (5) Before the system, 12-18 months to make new acquisitions available. After system, approx. 3 months.

Morris, L. R., "Why not both?" Library Resources & Technical Services, 17: 25-7 (Winter 1973).

Somewhat whimsical. Suggests that all possible types of catalog are simultaneously feasible with on-line data and appropriate coding.

New England Board of Higher Education, Wellesley, Mass. A technical and user audit of the shared cataloging support sub-system of the New England Library Information Network (NELINET). Volume I, Text. Council on Library Resources, Washington, D. C., June 1973. 253 p.
ERIC: ED 081 439

ERIC ABSTRACT: The results of a project designed to perform a technical audit and a user audit of the Shared Cataloging Support Sub-System of the New England Library Information Network (NELINET) are summarized in a two volume report. This portion, Volume I contains the narrative text; Volume II (LI 004 446 [ERIC: ED 081 440]) contains various tabulations of collected data. Various quantitative and qualitative data were obtained by interviews and questionnaires from the staffs of twenty academic libraries in New England. The purposes of compiling these data were to help the NELINET staff improve both the performance and cost allocation of the NELINET off-line Shared Cataloging Support Sub-System, and to aid the staff in planning for subsequent development of other network-oriented services.

The sub-system became operational April 1970. Services now include: computer production of catalog cards and labels; digitized union catalog of monographic resources; microforms catalog; production of by-product accessions lists. Estimation of cataloging cost per title: input labor $.32, output labor $.58, computer operations $1.71, estimated overhead $.45. They project that computer operations cost could be reduced from $1.71 to $.58 by converting system to disc as opposed to tape operation.

New England Board of Higher Education, Wellesley, Mass. A technical and user audit of the shared cataloging support sub-system of the New England Library Information Network (NELINET). Volume II, Tables and supplementary documentation. Council on Library Resources, Washington, D. C., June 1973. 151 p.
ERIC: ED 081 440

For abstract and annotation see Volume I above.

New York Public Library, N. Y. Research Libraries. The use of microfilm in relation to the retrospective and prospective catalogs of the Research Libraries of the New York Public Library: a report to the Council on Library Resources (CLR Grant No. 516). Council on Library Resources, Washington, D. C., June 1972. 39 p.
ERIC: ED 067 107

ERIC ABSTRACT: With the aid of a grant from the Council on Library Resources, the New York Public Library's Research Libraries conducted an experiment lasting from July 1971 through March 1972. The object of the experiment, which was in three parts or phases, was to determine the acceptability of microfilm as a substitute for the public card catalog, the new book catalog, and the authority file for the new book catalog. Because many of the cards in the heavily-used public catalog are badly deteriorated and in need of replacement, various alternatives, including microfilming and book publication, have been studied. Part I of the experiment was designed to test the feasibility of the first of these alternatives. Parts II and III, involving the use of microfilm as a substitute for the authority file and the new book catalog, as it related to the Processing Division, are reported on by the Chief of that Division. Part III also involved public use of The Research Libraries new book catalog on microfilm. A report on this part forms the final portion of the report.

Includes questionnaire. NYPL changed from traditional cataloging to computer system adapted to LC in 1971. Created 2 catalogs: (1) retrospective and (2) prospective. A segment of retrospective catalog was microfilmed; used 2 Memorex viewers (16mm film) on cassettes; used sample of 40 trays in "D's"; Library Technical Assistant supervised project. Technical problems: cassettes were fragile; light bulbs had to be replaced in 3 months; photography marginal; problem keeping focus even on entire screen. Use: searching problem, takes longer to find entry in microfilm; difficult to tell how far to turn cassette and all records must be searched; browsing nearly impossible (no guide cards); queing up; some users found equipment difficult to use; acceptance seemed to coincide with attitudes towards machines; low volume of use. No serious
* administrative problems (p.20). Copy of questionnaire is included in reading file.

* Nozik, Barbara. Literature survey: closing old catalogs, opening new catalogs. (Unpublished paper) Aug. 1973. 9 p.

Bibliography prepared as initial stage of the catalog investigation being done at Berkeley by their Committee on the Future of the Catalogs.

* Ohmes, Frances & J. F. Jones, "The other half of cataloging," Library Resources & Technical Services, 17(3):320-9 (Summer 1973).

The authors investigate the impact of a bibliographic retrieval/card production system, such as the Ohio College Library Center (OCLC), with special attention to its role in cataloging. Activities required at the local level to make the LC card a functioning component of the catalog are described. The characteristics of the ensuing workload are examined, along with methods of accomplishing it. These activities are seen as a factor in the persistence of backlogs. The design of OCLC, beacuse of the immobility of the terminal and the absence of the catalog from the data base, by-passes this workload, leaving the local library to accomplish it by the method of its choice, as before, or to leave it undone."

Points up a possible limitation of OCLC. "The authors have attempted to show...that the 'shared cataloging' module of OCLC is simply a bibliographic search and card production system."

Palmer, Richard P. Computerizing the card catalog in the university library; a survey of user requirements. Libraries Unlimited, Littleton, Colo., 1972. 141 p.

Subject is Univ. of Michigan card catalog: with eventual eye to putting this catalog on computer type. Some 'startling' results of study: 84% of users found what they were seeking; 90% of users would have found a computer printout sufficient. Stresses computer printout as back up for card catalog.

Parker, Ralph H., "Library automation," Annual Review of Information Science and Technology, 5:193-222 (1970).

Discussion of progress during 1969. Includes 182 items in "References".

Parr, Thomas, ed., "Library automation at the New York Public Library and the Association of New York Libraries for Technical Services," The LARC Reports, 3(3):1-103 (Fall 1970).

Entire issue deals with plans for automating NYPL. Good.

Patrinostro, Frank S. & Debra New. A survey of automated activities in the libraries of the US and Canada. 2nd ed. Tempe, Ariz., 1971.

Of little use; includes brief summaries of various automation activities.

Perrault, J. M., "Computerized book catalog at Florida Atlantic University," College and Research Libraries, 25:185-97 (May 1964).

A very generalized discussion not incorporating any of the decision factors we have focused on. "The advantages and disadvantages of computerized cataloging can be synthesized in a system based on the best of traditional intentions plus new functions which only the computer can achieve with reasonable economy. These advantages include elimination of some clerical staff (as well as the elimination of the possibility of unintended variation) increase of speed with correspondingly smaller lag between current input and output, and better control than is possible with the conventional card system. The disadvantages often pointed out are over-rigidity, low quality physical results, and the difficulty of change over."

Perrault, J. M., "Computerized cataloging: the computerized catalog at Florida Atlantic University," Library Resources & Technical Services, 9:20-34 (Winter 1965).

(1) "Traditionally, what we want in a library catalog is accurate information, handily arranged and pleasantly intelligible, capable of flexibility to harmonize with each sort of document, and able to be kept almost instantly correct. The card catalog does these things, sometimes, or at least some of them. The book catalog does them too, and opens the way to new and challengingly promising functions. And (we sincerely believe) it can even beat the card catalog on its own field, in almost all of the areas of comparison: accuracy, handiness, intelligibility, flexibility, currency." (2) Chose divided rather than dictionary because of difficulty involved in programming a body of rules as complex as those for library filing. (3) Data input by a cataloger onto input record forms, keypunched into decks of cards, read onto a random order master tape, distributed onto the three catalog production tapes by the functional numbers, sorted one at a time, and printed on the IBM 1403 printer with 88 character chain. It is then reduced by a camera to a size easier to use than the huge full size IBM sheets, and again printed (in multiple copies) on a offset press.

* Piternick, George, "The machine and cataloging," Advances in Librarianship, ed. by Melvin John Voigt, 1:1-35 (1970).

Excellent survey of history and prospects. Points to the greater success of book catalogs in small or specialized libraries than in large research libraries. Suggests that book catalogs of the conventional type perhaps become impractical for libraries of 100,000 or more titles. Use of "register" catalogs might achieve the advantages of book catalogs for large libraries, and avoid the problems. Includes description of MARC project and speculates on its effect on cataloging. "It is important to realize that the MARC II record for any title, although it contains all the data customarily found in a traditional catalog record..., making retrieval of such information from large catalogs more feasible, does not go significantly beyond the traditional bibliographical record and inherits all its limitations." Suggests that on-line reactive catalogs are not likely to be realistically available for some time, but are probably coming nearer.

* Pizer, Irwin H., "Book catalogs versus card catalogs," Medical Library Association Bulletin, 53:223-238 (Apr. 1965). Reprinted in Tauber, Maurice F. & Hilda Feinberg, Book catalogs, Scarecrow Pr., 1971, pp.38-52.

Surveys history of book catalogs, compares book catalogs with card catalogs, discusses advantages and disadvantages of computer-produced catalogs with card catalogs, and gives examples of some computer-produced book catalogs.

* Port, Idelle, "Developing a strategy for retrospective conversion of the card catalog to a machine readable data base in three academic libraries (small, medium and large): two alternatives considered," Information Storage & Retrieval, 9:267-280 (May 1973).

"Summary--Library of Congress MARC II records provide partial conversion of a library's holdings to machine readable form (i.e. English language monographs cataloged at Library of Congress starting in 1968). But a library wanting a machine readable file of its entire holdings must decide how to supplement its MARC II records. Basically the choice is whether to use the library's catalog cards to create these supplementary reacods or to select records from a machine readable data base other than MARC, one example being the University of California Union Catalog Supplement (UCUCS) data base.

606 sample computer printed records from the 800,000 unique titles acquired by the University of California 1962-1968 which constitute the UCUCS magnetic tape file were used to estimate collection overlap between UCUCS (source file) and three academic libraries (target files) comprising respectively 70,000 titles, 280,000 titles and 1,000,000 titles. General cost equations were developed for retrospective conversion of a target library's card catalog to a machine readable data base using an already existing source data base. Estimated collection overlap values and reported costs for creation and selection of UCUCS records were cited in support of using the UCUCS data.

Several simple inequalities involving selection costs, number of records in the target file, and amount of collection overlap between source and target were developed, both for selecting from the entire source file, or alternately, selecting from a limited part of the source file. They provide the librarian with a criterion for deciding whether it is more economical to use an existing file than to create the target library's entire retrospective data base without using an existing file."

Includes good bibliography (35 items).

Project Intrex. Semiannual activity report, 15 March 1970 to Sept. 1970. M.I.T. 15 Sept. 1970. 107 p.
ERIC: ED 043 348

ERIC ABSTRACT: User experiments are the main theme of this...issue in the series of Project Intrex semiannual activity reports. This system is undergoing tests with users who are motivated...need for information rather than an interest in the machinery...which it is stored, retrieved and presented. Test results...indicate which fields in the augmented catalog are most helpful...the user, which of the retrieval program features are most ef...and which display techniques are most congenial in continued... This kind of information will make it possible to design the...information systems in which libraries and information centers,..utilize the new computer-communications technology. The seve...sections of the report are: (1) introduction, (2) research a...development activities, (3) model library, (4) Project Intrex...(5) current publications, (6) past publications 1969-1970, an...past publications 1966-1969. The research and development act...section covers: (1) status of the program, (2) user experiment...augmented-catalog inputting, (4) storage and retrieval, (5) d...consoles, and (6) full-text storage and retrieval. The model...section includes: (1) status of the project, (2) point-of-use...instruction, and (3) library pathfinders.

Good--emphasizes user experiences. [...'s in abstract above represent portions of abstract not printed by microfiche printer.]

Project Intrex. Semiannual activity report, 15 September 1970 - 15 March 1971. M.I.T., 15 March 1971. 88 p.
ERIC: ED 047 739

ERIC ABSTRACT: The research activities of Project Intrex are directed toward the extension of man's intellectual reach by a new kind of control over access to information. Ways are sought to improve the efficiency of catalog search by utilization of interactive computing techniques, and to provide rapid access to full-text displays by utilizing microfilm storage and facsimile transmission. User experiments, the central subject of the reports, show a great deal of work needs to be done, but are mainly encouraging. The principal remedy for existing budgetary constraints which have called for drastic retrenchment will be found in the organizational domain. If the purposes of special interest groups can be met at an acceptable cost, utilization of these techniques can spread through interlibrary cooperation and networking to gradually form a multidisciplinary library network.

The project at M.I.T. includes a Model Library Program where they have done extensive testing of user responses. Report includes questionnaires and analysis of responses to automated program explaining the library.

* Rather, John C, "Filing arrangement in th brary of Congress catalogs," Library Resources and Technical Service 6:240-61 (Spring 1972).

"New filing rules have been developed the catalogs of the Library of Congress to ease the tasks of filers users and to pave the way for computer-assisted filing. This artic discusses preliminary considerations about the functions of large bib ographic files, the complexities of cataloging, the interaction between sers and catalogs, and ways to simplify arrangement. The assumptions and principles that underlie the proposed rules are stated, and their organization and anticipated use are described. An abridged version of the rules is illustrated by an extended example."

New rules at LC could affect intellectual organization of computer produced data in the future.

Ready, W. B., "Catalog retrieval: a library economy," Library Resources & Technical Services, 14:439-44 (Summer 1970).

(1) "Evaluation of the Information Dynamics Corporation Retrieval System in an academic library, describing the specification of the machine and the various reader printers tested at Mills Memorial Library, McMaster University." (Canada.) (2) LC micrographic catalog retrieval system. (3) Cost study for 6,600 LC books Jan.-May: $6,570.30 savings. (4) Article deals more with cataloging than with catalogs.

Resnikoff, H. L. & J. L. Dolby. Access: a study of information storage and retrieval with emphasis on library information systems. Final report. R and D Consultants Co., Los Altos, Calif., Mar. 1972. 280 p., 118 refs. ERIC: ED 060 921

ERIC ABSTRACT: It is the purpose of this study to provide fresh...into the nature of library problems by systematically...ing the question of size in various information contexts. In the...duction, the role that size plays from the user's point of view...lustrated. In the following sections, a study of the card...ogue, the classification system and various other access...isms are presented. Their size characteristics are determined ...e impact of these considerations on the creation and use of...mechanisms is shown. The several chapters that follow are...ed to the more extensive statistical and mathematical...fications necessary to provide a solid base for future study...ement, and design of information access systems. [...'s represent portions of abstract not printed by microfiche printer.]

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* Roberts, Edward Graham & John P. Kennedy, "The Georgia Tech Library's microfiche catalog," The Journal of Micrographics, 6(6):245-51 (July 1973).

ABSTRACT: "The Price Gilbert Memorial Library of the Georgia Institute of Technology has reproduced its entire card catalog on microfiche, and is updating this basic file with a bimonthly cumulated supplement produced by the Computer Output Microfilm (COM) process. The total catalog has been placed, with an appropriate microfiche reader, in every academic and research department on campus--thereby taking the chief bibliographic record of the library to the faculty user. Remote bibliographic access is complemented by a telephone request and delivery service which provides delivery of requested books or photocopies from the library to the faculty member."

Excellent description of system. Includes cost report, and details of equipment used. Plan to place complete catalog on each level of the book stack, as well as in dormitories, Student Center, and infirmary. Prefers self-indexing microfiche with simplest possible reader to mechanized systems and external indexes (as cartridge); feels "that the microfiche system has greater reliability, is simpler to understand and use, and provides as fast or faster access, as well as requiring less expensive readers." Reports no problems with lost or misfiled microfiche. Fiche compares favorably with book catalogs in regard to cost, less than 1/10.

Sanders, N. P., comp. Survey of automated activities in the libraries of the United States. The LARC Association, 1971. 152 p.

Those few libraries which mention the catalog seem to be 'studying methods of production'.

* Sargent, Charles W. & Donald A. B. Lindberg, "Computer-based catalog project for the University of Missouri," Special Libraries, 63:121-9 (Mar. 1972).

"Activities are outlined to design and build a prototype system to place within one or more of the University's computer systems a description of each of the approx. 1.4 million books held by one or more of the libraries on the four campuses of the University of Missouri. The problems are delineated and the scope of the work by the Department of Information Science is described."

This describes a test project done at Univ. of Mo., a shelf list conversion method. Originally graduate students were used, but it was found that use of a half-time experienced cataloger was more economic despite the higher pay. It took approx. 18 days to code, edit and key-punch a standard size shelf list drawer (800-1100 titles). Data was input with MT/ST. Includes an analysis of errors and error patterns. System designed to be accessed via CRT or TWX with full bibliographic details available to requester through use of an EXPAND command. Clear and interesting exposition of the project.

Sherman, Don & Ralph M. Shoffner. California State Library: processing center design and specifications. Volume I, system description and input processing. Institute of Library Research, Univ. of California, Berkeley, Apr. 1969. 259 p. (Related documents are LI 001 843, LI 001 844 and LI 001 845, Volumes II, III and IV of this study.)
ERIC: ED 036 305

ERIC ABSTRACT: The scope of the California State Library-Processing Center (CSL-PC) project is to develop the design and specifications for a computerized technical processing center to provide services to a network of participating California libraries. Immediate objectives are: (1) retrospective conversion of card catalogs to a machine-form data base, compatible with MARC II; (2) continuing conversion of current cataloging to machine-form data base, compatible with MARC II; (3) incorporation of MARC tapes, distributed by the Library of Congress, into the Center's data base for use in cataloging support (4) production of book form catalogs; and (5) control of technical processing associated with serials, including ordering, check-in, claiming, binding, accounting and holding lists. Following a definition of the scope of the project, future developments are discussed in a survey of plans and accomplishments of other cognate projects in the area of cooperative library networks. This report also includes: (1) the system description, an overview of system files and system logic for all operating functions; (2) a discussion of production and control, which focuses on the problem and recommended procedures of production and control of source documents during the conversion process; and (3) the conversion program.

Points out details of conversion. Vol. II: File maintenance, authority verification, book catalog filing, book catalog format, Processing Center organization. Vol. III: Coding manual. Vol. IV: Serials control system.

Simmons, P. A., "Analysis of bibliographic data conversion costs," Library Resources & Technical Services, 12: 296-311 (Summer 1968).

Not particularly useful. Actually an article on the system used in the MARC project at LC for measuring conversion costs from the manuscript card to creation of the magnetic tape record. For a typical month (October 1967), explains each step involved and gives the dollar cost (and sometimes the time taken) per record. Many steps were later changed, and such items as wage rates are not included, so it's questionable how relevant this article is to anyone else.

Simmons, Peter, "Library automation," Annual Review of Information Science and Technology, 8:167-201 (1973).

Discussion of progress during 1972. Includes 91 items in "References".

* Simonton, Wesley, "The computerized catalog: possible, feasible, desirable?" Library Resources & Technical Services, 8:399-407 (Fall 1964). Reprinted in Tauber, Maurice F. & Hilda Feinberg, Book catalogs, Scarecrow Pr., 1972, pp64-75.

Analysis of cataloging process and components, with attempt to relate them to the computer potential then available. Considers the implications of computer production in cataloging, relative to descriptive cataloging, subject control, and filing.

Smith, Lynn S. U.C.U.C.S. 1. 1973. (Unpublished paper) 9 p. with appendices.

A critical analysis of UCUCS 1, prepared by a serials cataloger at UC Riverside. Outlines in considerable detail errors, defects, and problems in this computer-produced catalog. Annotated reproductions of pages from UCUCS are appended as illustrations of the difficulties users will have.

Stanford Conference on Collaborative Library Systems Development. Proceedings of a conference held at Stanford University Libraries, October 4-5, 1968. Stanford University Libraries, 1969. 234 p.
ERIC: ED 031 281

ERIC ABSTRACT: The conference was convened (1) to disseminate information on the development of Stanford's library automation project, and (2) to disseminate information on the several and joint library automation activities of Chicago, Columbia, and Stanford, and (3) to promote heated discussion and active exchange of ideas and problems between librarians, university administrators, computer center managers, systems analysts, computer scientists, and information scientists. These conference papers present information on library automation projects at various universities and specialized information about institutions involved in bibliographic data processing activities. Topics specifically include: the Collaborative Library Systems Development (CLSC), the National Libraries Automation Task Force, the Biomedical Communication Network at the National Library of Medicine, the Book Processing System at the University of Chicago, the application of hardware and software in libraries, data [input?] network and display terminals at Stanford, and other automation projects at Chicago, Columbia, and Stanford.

Primarily useful only for background.

Stein [Theodore] Company, New York. Proposed computer system for library catalog maintenance. For New York State Library, 1967. 2 v.

Pt. 1 defines areas of input (the catalog work-sheet, input control notice, the delete work-sheet, authority file work-sheet, special request notice, new title notice); and output (the book catalog, catalog cards, the catalog list, the output control notice, etc.). Pt. 2 deals with system design.

Swanson, D. R., "Requirements study for future catalogs," Library Quarterly, 42:302-15 (July 1972).

(1) Research to ascertain what information should be recorded in future library catalogs in order to best serve their users. (2) "Catalogs have historically served the book-finding rather than the subject search or the reference question function." (60% known items; 38% subject search.) (3) Summarizes reports and papers on the subject. (4) In general, not an article applicable to subgroup B.

System scope for library automation and generalized information storage and retrieval at Stanford University. Stanford University, Feb. 1970. 157 p.

* [Review by Robert W. Burns, Jr. College & Research Libraries, 32:236-8 (May 1971).]

The basic document has not been located, but the review is worth reading in itself. "Occasionally the report literature produces a document of such import that it should be read and its implications pondered by all professionals connected with the information sciences. This report is such a document. Here in concrete form, uncluttered by the acres of blue sky so prevalent in the professional literature, are the first realistic intimations of what tomorrow has in store for the information science professions."

Tauber, Maurice F. & Hilda Feinberg. Book catalogs. Scarecrow Pr., 1972. 572 p.

* Introduction and bibliography, pp.11-30. "Retrospects and recommendations" by Theodore C. Hines & Jessica L. Harris.

Traces recent developments in the production of card catalogs; refers to literature dealing with costs of card and book catalogs; lists advantages and disadvantages of book catalogs. Hines & Harris provide useful summary for the collection of articles which comprise this survey of the current book catalog situation.

Tauber, Maurice F. & Hilda Feinberg, "Book catalogs." (In Toward a theory of librarianship. Scarecrow Pr., 1973, pp.350-77.)

* Revision of their introduction to their publication titled: Book catalogs. 1971. Bibliographic notes are expanded from previous publication. Copy of the NOTES (72 references instead of 42) is in reading file.

United Aircraft Corporate Systems Center, Farmington, Conn. Initial report on a study to plan development and implementation of a Connecticut Library Research Center. Connecticut Research Commission, Hartford, 26 Sept. 1966. Report No.-RSA-66-4; SCR-301. 67 p.
ERIC: ED 022 512

ERIC ABSTRACT: Performed under the guidance of the Connecticut State Library...Connecticut State Library Research Advisory Committee, this study includes...survey of Connecticut librarians and library users to evaluate the need for...Research Center, (2) a design concept for a proposed operational system...for its implementation, and (3) estimates of the costs of implementing and...the system and the requirements for space and personnel. It is concluded th...exists in Connecticut for a center such as that proposed, offering serv...should include at least bibliographic searching, a document locating se...centralized control, coordination, and dissemination of catalog data. I...printed products such as book catalogs and current awareness lists...made available, implementation should start in July, 1967. The outline of a fur...program for the detailed design of the initial system, which should be...before implementation begins, is included. [...'s represent portions of abstract not printed by microfiche printer.]

* Valentine, Violet, "So--data processing never fails? A more realistic picture," American Libraries, 3:313-4 (Mar. 1972).

Includes a "brief bibliography of not-so-successful use of computers in libraries..."

Vann, Sarah K., "Book catalogs: quo animo? Members of the Black Gold Cooperative Library System [California] reply," Library Resources & Technical Services, 11:451-60 (Fall 1967).

Includes user survey.

Veaner, Allen B. Project BALLOTS: Bibliographic Automation of Large Library Operations using a Time-sharing System. Progress report (3/27/69-6/26/69). Stanford University Libraries, 29 July 1969. 402 p.
ERIC: ED 030 777

PROJECT BALLOTS IS A LARGE-SCALE LIBRARY AUTOMATION DEVELOPMENT PROJECT OF THE STANFORD UNIVERSITY LIBRARIES WHICH HAS DEMONSTRATED THE FEASIBILITY OF CONDUCTING ON-LINE INTERACTIVE SEARCHES OF COMPLEX BIBLIOGRAPHIC FILES, WITH A LARGE NUMBER OF USERS WORKING SIMULTANEOUSLY IN THE SAME OR DIFFERENT FILES. THIS REPORT DOCUMENTS THE CONTINUING PROGRESS OF THE PROJECT IN SUBSTANTIAL TECHNICAL DETAIL, REFLECTING BOTH ACCOMPLISHMENTS AND PROBLEMS. AN INITIAL OBJECTIVE OF BALLOTS WAS TO CREATE AN OPERATIONAL ACQUISITION SYSTEM COMPATIBLE WITH LIBRARY OF CONGRESS MACHINE-READABLE CATALOGING (MARC) RECORDS. SPECIFICATIONS ARE INCLUDED IN THE REPORT FOR CONVERTING MARC RECORDS INTO A SPECIAL INPUT FORMAT FOR BALLOTS AND FOR THE CREATION OF A LOCAL ON-LINE MARC FILE. OTHER ACTIVITIES ARE IN PROCESS FOR THE UTILIZATION OF MARC. SUPPORTIVE FUNCTIONS OF THE PROTOTYPE ACQUISITION SYSTEM ARE SEARCHING, ORDERING, RECEIVING, AND ACCOUNTING, AND, FOR THE MOST PART, ACCESS TO ITS FILES ARE WITH ON-LINE TERMINALS. LIMITED ON-LINE SEARCH SERVICE IS CURRENTLY AVAILABLE AT STANFORD. (SUCCESSFUL REMOTE ON-LINE DEMONSTRATIONS HAVE BEEN CONDUCTED AT SEVERAL INSTITUTIONS.) A REFERENCE MANUAL FOR COMMUNICATING WITH THE STANFORD RETRIEVAL SYSTEM IS INCLUDED IN THE REPORT. ACCESS IS PROVIDED THROUGH THE STANFORD TERMINAL PROCESSOR (MILTEN) USING AN IBM 2741 TERMINAL (OTHER TERMINALS TO BE CONSIDERED LATER) TO COMMUNICATE WITH AN IBM 360/67 COMPUTER LOCATED IN THE STANFORD COMPUTATION CENTER. THIS FACILITY PLANS TO OBTAIN 500,000 BYTES OF ADDITIONAL HIGH SPEED (750 NANO-SECOND) CORE TO SUPPORT FULL-SCALE SYSTEM FUNCTIONING DURING ALL HOURS OF NORMAL COMPUTER CENTER OPERATION. MANY MORE SPECIFIC PROJECT DEVELOPMENTS ARE DOCUMENTED IN THE REPORT. (JH).

A report of many of the developmental activities.

Waldron, Helen J. Book catalogs: a survey of the literature on costs. Rand Corp., Santa Monica, Calif., May 1971. 27 p.
ERIC: ED 053 775

ERIC ABSTRACT: Once a computer system has been established, and capabilities exist for the kind of data manipulation which could produce either a book catalog, with as many access points as seem desirable, or catalog cards if desired, the next question to be resolved is whether a book catalog is an economically feasible substitute for catalog cards. The advantages and disadvantages of both card catalog and book catalogs are considered. It is concluded that it is not economically sound to plan on a book catalog unless many copies are required, or the unusually high per-copy costs for small number can be justified.

Survey of 50 sources. Concludes that phototypesetting is cheaper, as well as more readable, than computer printout. Cost of conversion from catalog cards is not considered. Refers to Dolby study: comparative cost data (ca. $.09/entry for full form [425 characters/entry], $.05 for short form entries [250 characters/entry]). Includes comparative cost charts for several institutions, and bibliography (22 with costs, 25 without costs).

* Outline of the advantages and disadvantages of card catalogs and book catalogs (included in reading file).

Warheit, I. A., "Computer produced book catalog," Special Libraries, 60: 573-7 (Nov. 1969). Reprinted in Tauber, Maurice F. & Hilda Feinberg, Book catalogs, Scarecrow Pr., 1972, pp.54-63.

Preliminary to IBM Manual E20-0333 LA--computer produced book catalog. A general outline of procedures and a suggestion of advantages.

Weinstein, Edward A. & Virginia George, "Computer-produced book catalogs: entry form and content," Library Resources & Technical Services, 11:185-91 (Spring 1967).

Cites printing as major cost factor in the production of book catalogs, and recommends, therefore, "short forms sufficient unto the needs of particular entries" as way to economy.

* Weisbrod, D. L., "Integrated computerized bibliographic system for libraries: the Yale bibliographic system," Drexel Library Quarterly, 4:214-32 (July 1968).

(1) Use existing equipment, batch mode. (2) Prefer book catalog, but cost too high for desired frequency and mode of supplement cumulation, so card form the only alternative--in order to be compatible with existing catalogs, 3x5 cards chosen. (3) Stages: (a) bibliographic file on magnetic tape (by main entry), (b) 3x5 card production, (c) MATE program (MARC Translate and Edit) which provides a programmed, machine-level interface with the MARC pilot project--allows specifically requested MARC records to be absorbed into YBS with minimum of human effort.

* Winik, Ruth, "Reference function with an on-line catalog," Special Libraries, 63:217-21 (May/June 1972).

"The automated Experimental Library Management System (ELMS) in use at the IBM Los Gatos Laboratory has proved to offer unique advantages in fulfilling the reference function. All records of the library, including complete bibliographic descriptions, order information and circulation status, are available at the librarian's fingertips at the reference desk. The IBM 2260 display terminal permits very fast answers to most patron and interlibrary loan questions. Reference collection currency can be monitored easily because files can be searched by date. Time spent by patrons in file query is optimized by the provision of multiple access points and the permutation of titles, descriptors and corporate authors."

Includes 11-item bibliography.

"Wisconsin University Library phases out MT/ST," Library Journal, 98:678 (Mar. 1, 1973).

(1) Memorial library at the Univ. of Wisconsin eliminated use of IBM magnetic tape selectric typewriter and will produce its catalog cards by typing unit cards and producing card sets on the offset press with added entries overtyped. Initiated because of a drop in original cataloging which resulted in the MT/ST's only running at 2/3 capacity. (2) Similar decision made at Princeton and Cornell Universities.

DISCUSSION OF ALTERNATIVE FORMATS

Decision Factor	CARDS	BOOK-PHOTOGRAPHICALLY PRODUCED
User Factors (ease of use, cost to user, assistance needed)	The format with which most library users are familiar; offers multiple access points to the entire catalog, though only one access point to any specific place in the catalog; processing delay caused by card preparation, catalog maintenance and seemingly inherent filing backlog interferes with use; with proper staffing, could be constantly up to date; success of user depends on filing arrangement; since only one copy realistically possible, user must come to its location; continuing user need not learn a new system, but a new user may have more difficulty with cards than with book form; has 'browsability'; considerable assistance needed in order to consult (refer to Subgroup A's findings).	Ease of use varies with size and weight of volumes, number of volumes necessary to cover collection, whether volumes are bound or unbound, organization of the set, typography used, legibility, cumulation pattern, number of supplements, number of users in relation to the number of sets provided; multiple copies offer multiple access points to any specific place within the set; since multiple sets possible, copies can be provided in more than one place, so less transit time for the user may be needed; continuing user must learn a new system but a new user may have less difficulty with book than with card form; user must cope with variant systems, some being legacies from original card catalog; has 'browsability'; would require at least as much assistance as for card catalog; detailed explanatory sections could be provided at front of each volume.

BOOK-PRINTED BY TYPESETTING	BOOK-COMPUTER PRODUCED
Ease of use varies with size and weight of volumes, number of volumes necessary to cover collection, whether volumes are bound or unbound, organization of the set, typography used, legibility, cumulation pattern, number of supplements, number of users in relation to the number of sets provided; multiple copies offer multiple access points to any specific place within the set; likely to be more legible than a photographically-produced book catalog and require fewer volumes; since multiple sets possible, copies can be provided in more than one place, so less transit time for the user may be needed; continuing user must learn a new system, but a new user may have less difficulty with book than with card form; user must cope with variant systems, some being legacies from original card catalog; has 'browsability'; unless major editing done, at least as much assistance required as for card catalog; detailed explanatory sections could be provided at front of each volume.	Ease of use varies with size and weight of volumes, number of volumes necessary to cover collection whether volumes are bound or unbound, organization of the set, typography used, legibility, cumulation pattern, number of supplements, number of users in relation to the number of sets provided; multiple copies offer multiple access points to any specific place within the set; cumulation pattern and number of supplements likely to be more frequent and up to date, thereby saving user time; since multiple sets are possible, copies can be provided in more than one place, so less transit time for the user may be needed; continuing user must learn a new system, but a new user may have less difficulty with book than with card form; user must cope with variant systems, some being legacies from original card catalog; software limitations may impose additional problems, but this is not inherent; has 'browsability'; unless major editing done, at least as much assistance needed

DISCUSSION OF ALTERNATIVE FORMATS

MICROFORM (fiche or film) or VIDEO	ON-LINE TERMINAL ACCESS	Decision Factor
Previous experience of reading text on microform readers has tended to create negative attitudes in users, but new technology such as cassette microform seems easier to use and average length of time spent consulting a catalog may well be less than e.g. reading a newspaper; patron reaction in Westminster (England) City Library was favorable to their microform catalog; inexpensive multiple copies can be made available to avoid queuing problems; success of user depends on filing arrangement, type of microform, and arrangement of machines (e.g. machines dedicated to particular file segments); since multiple sets inexpensive, copies can be provided in many places, so less transit time for the user may be needed; user not only must learn a new system but also must cope with variant systems, some being legacies from original card catalog; if COM is used, software limitations may impose additional problems, but this is not inherent; user must learn to use the equipment; unless major editing done, at least as much assistance needed	Ease of use varies with a person's orientation and basic attitude toward machines, but format likely to arouse strong reactions, both pro and con; potential exists for users to manipulate the data, a possibility which might encourage them to learn to approach a new format; intellectual organization more flexible than that of any other format and thus would cause fewer problems; multiple consoles essential and these would offer multiple access points to any specific place in the catalog; if proper staffing is provided, and if system linked to an automated processing system, potential exists for a given record to be reflected from time the original order is placed and for the system to be completely up to date; offers more than one access point, with unlimited remote access a possibility, if economically feasible, software limitations may impose additional problems, but this is not inherent; back-up system (probably a single copy printout of the catalog) absolutely essential for use when the system is down; use of back-up	User Factors (ease of use, cost to user, assistance needed)

Historical Development and Present Status	The standard format and the one in existence at UCLA; format questioned in recent years since it is labor and space intensive; discussion brought to the fore by the possibility of LC's abandoning superimposition and closing its catalog.	UCLA has a photographically-produced G.K. Hall catalog covering period up to 1962; multiple copies exist on campus; G.K. Hall catalogs represent 'quick and dirty' method of providing wider access to the UCLA and UCB collections.

Decision Factor CARDS BOOK-PHOTOGRAPHICALLY PRODUCED

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	ıs for card catalog; help needed ikely to increase if computer- roduced catalog differs greatly rom original card catalog; de- ailed explanatory sections could e provided at front of each olume.
Formerly the standard form of the book catalog, e.g. NUC basic, but now largely replaced by computer-produced or photographically-produced book catalogs.	echnique for producing book atalogs currently being used by any libraries with a wide range f sophistication, e.g. NYPL, CUCS 1, UCLA CATSUP.
BOOK-PRINTED BY TYPESETTING	BOOK-COMPUTER PRODUCED

as for card catalog; in addition, operating instructions for the equipment needed: complexity increases if unit fiche, reel film, or non-dedicated machines are used.	system would complicate use of catalog and force users to become familiar with more than one format; orientation to the new system, and operating instructions for the equipment necessary; the system itself could provide much of the assistance needed to understand the intellectual organization.	
Currently operational in some British libraries; while some American libraries have microfilmed their catalogs for security reasons, Georgia Tech seems to be the only major library with a microfiche catalog in general use; many microform readers exist throughout the UCLA system and there are current plans at UCLA for issuing CATSUP and the serials list on microform.	Format technologically feasible, but because of costs, only known library installations are IBM Library at Los Gatos, and Bucknell; Ohio State University scheduled to adopt on-line system July 4, 1976, but has not released specific details; is money intensive.	Historical Development and Present Status

MICROFORM (fiche or film) or VIDEO	ON-LINE TERMINAL ACCESS	Decision Factor

Decision Factor	CARDS	BOOK-PHOTOGRAPHICALLY PRODUCED
Available Funding	Presently operational on regular funding.	No relevant data.
Updating (ease and speed)	Theoretically the easiest format, other than an on-line machine readable data base, to update by adding new acquisitions and deleting erroneous data, but, since it is labor intensive, UCLA has been unable to keep the card catalog up to date; because of the size and complexity of the existing catalog, the type of updating necessitated by major revisions in cataloging rules, e.g. AACR, is a virtual impossibility.	Impossible to update (other than through supplements) without re-photographing entire set; otherwise, basic set could only be corrected to a limited extent by annotations; very time-consuming and expensive and multiple sets would aggravate the problem, erroneous information frozen into the system.

BOOK-PRINTED BY TYPESETTING	BOOK-COMPUTER PRODUCED
No relevant data.	If shared with other UC campuses, ULAP funding, perhaps in conjunction with projected UCUCS 11, might be available.
Impossible to update (other than through supplements) without re-photographing entire set; otherwise, basic set could only be corrected to a limited extent by annotations; very time-consuming and expensive and multiple sets would aggravate the problem; erroneous information frozen into the system.	One of this format's major advantages, as can be readily updated either through a variety of supplements or through cumulations, including complete cumulations; corrections to basic set easily made in subsequent cumulations; if cataloging rules change, potential exists for automatic revision (assuming appropriate software is available).

MICROFORM (fiche or film) or VIDEO	ON-LINE TERMINAL ACCESS	Decision Factor
Conventional microform: No relevant data. COM: If shared with other UC campuses, ULAP funding, perhaps in conjunction with projected UCUCS 11, might be available.	Although if shared with other UC campuses, funding from ULAP, perhaps in conjunction with projected UCUCS 11, might theoretically be available, this would be unlikely because of extremely high costs.	Available Funding
Conventional microform: Impossible to update (other than through supplements) without re-photographing entire set; impossible to annotate and therefore erroneous information frozen into the system. COM: One of this format's major advantages, as it can be readily updated, either through a variety of supplements or through cumulations, including complete cumulations; corrections to basic set easily made in subsequent cumulations; if cataloging rules change, potential exists for automatic revision (assuming appropriate software is available).	Potentially the most up-to-date format; corrections to basic data easily made; if cataloging rules change, potential exists for automatic revision (assuming appropriate software is available); updating of back-up system would be similar to that of computer-produced book catalog, except that a printout format would probably be used.	Updating (ease and speed)

Decision Factor	CARDS	BOOK-PHOTOGRAPHICALLY PRODUCED
Equipment and Housing	Very space intensive, with space needs growing rapidly (approximately 175 trays per year at UCLA); space costs very high; is eye legible without need for machine aid, but requires special equipment for housing.	Takes much less floor space than a card catalog; requires special shelving and tables; is eye legible without need for machine aid
Maintenance and Security	Cards subject to wear, mutilation and theft (e.g. UCLA once lost all cards on India); these problems a basic factor in NYPL decision to adopt computer-produced book catalog; a stolen card difficult to detect and therefore very difficult to replace.	Needs periodic re-binding, minor repairs, and replacement of pages in case of wear or mutilation; mutilation relatively easy, but replacement of pages also relatively easy, provided archival copy is available.

Takes much less floor space than a card catalog; requires special shelving and tables; is eye legible without need for machine aid	Takes much less floor space than a card catalog; requires special shelving and tables; is eye legible without need for machine aid.
Needs periodic re-binding, minor repairs, and replacement of pages in case of wear and mutilation; mutilation relatively easy, but replacement of pages also relatively easy, provided archival copy is available; replacement pages could be photographed from typeset copy.	Computer printout form exceptionally fragile and may necessitate frequent replacement; traditional book format needs periodic rebinding; minor repairs, and replacement of pages in case of wear or mutilation; mutilation relatively easy, but replacement of pages also relatively easy, since archival copy is built into system.
BOOK-PRINTED BY TYPESETTING	BOOK-COMPUTER PRODUCED

Takes much less floor space than a card catalog; requires multiple readers (some types may generate noise) and may require special lighting.	Takes much less floor space than a card catalog; requires multiple terminals which could be installed in various locations, both within the main library and elsewhere.	Equipment and Hou ing
Repair services would have to be available whenever the library is open and preventative maintenance of readers would be a continuing problem (nature would depend on complexity of machine); a relatively secure format as machines could be bolted down and film could be easily and inexpensively replaced since archival copy is built into system.	System more prone to periodic breakdown than any other format; and when some types of breakdowns occur, potential exists for entire system to be inoperative; repair services would have to be available whenever the library is open and preventative maintenance of consoles would be essential; a relatively secure format since consoles could be bolted down, but file security would have to be ensured by appropriate software.	Maintenance and Security
MICROFORM (fiche or film) or VIDEO	ON-LINE TERMINAL ACCESS	Decision Factor

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Decision Factor	CARDS	BOOK-PHOTOGRAPHICALLY PRODUCED
Costs developmental	None, since format already developed.	Minor, unless editing is done.
Costs retrospective conversion	Existing catalog is retrospective, but much editing is needed to make it an effective instrument.	Probably the cheapest technique for retrospective conversion; in addition, G.K. Hall set already exists for period prior to 1962.

BOOK-PRINTED BY TYPESETTING	BOOK-COMPUTER PRODUCED
Minor, unless editing is done.	Usually involves expensive (sometimes very expensive) systems analysis and programming costs.
Extremely expensive and time-consuming; as expensive as keyboarding without offering advantages of machine-readable data base.	Likely to be extremely expensive, considering not only the keyboarding, but also the editing costs needed to create a good machine-readable data base and avoid the problems associated with a poorly edited catalog such as UCUCS 1; biggest single cost, but a one-time expenditure which would not have to be undertaken simultaneously with the creation of the new system; could be accomplished over a number of years without materially increasing costs; costs would vary with the extent of the catalog record to be converted (full public catalog, partial public catalog, shelf list, or any combination of these).

MICROFORM (fiche or film) or VIDEO	ON-LINE TERMINAL ACCESS	Decision Factor
Conventional microform: Minor, unless editing is done. COM: Usually involves expensive (sometimes very expensive) systems analysis and programming costs.	Most expensive developmental costs of any formats; would involve development of software to support highly sophisticated on-line interactive system.	Costs developmental
Conventional microform: Less expensive than any form of book catalog. COM: Likely to be extremely expensive, considering not only the keyboarding, but also the editing costs needed to create a good machine-readable data base and avoid the problems associated with a poorly edited catalog such as UCUCS 1; biggest single cost, but a one-time expenditure which would not have to be undertaken simultaneously with the creation of the new system; could be accomplished over a number of years without materially increasing costs; costs would vary with the extent of the catalog record to be converted (full public catalog, partial public catalog, shelf list, or any combination of these).	Likely to be extremely expensive, considering not only the keyboarding, but also the editing costs needed to create a good machine-readable data base and avoid the problems associated with a poorly edited catalog such as UCUCS 1; preparation of the machine-readable data base the biggest single cost, but a one-time expenditure which would not have to be undertaken simultaneously with the creation of the new system; however, a very large data base involves extremely high storage costs and these would continue and expand; costs would vary with the extent of the catalog record to be converted and stored (full public catalog, partial public catalog, shelf list, or any combination of these).	Costs retrospective conversion

osts updating	Labor intensive and thought to be very expensive; no firm data for UCLA available to the Subgroup.	Cannot really be updated without being re-photographed.
elated Uses	Relatively inflexible format, if cards are typed or printed; however, if cards are computer-produced, there would be a machine-readable data base which could be used for other purposes.	Relatively inflexible format; selected pages could be copied by patrons with relative ease; catalog would not be machine-readable or manipulable.
Decision Factor	CARDS	BOOK-PHOTOGRAPHICALLY PRODUCED

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Cannot really be updated without being re-done.	Reformatting costs are included in developmental software and other costs are minor compared with costs of updating a photographically-produced or typeset book catalog; printing costs increase (and may be substantial) as number of volumes and cumulations increases.
Relatively inflexible format; selected pages could be copied by patrons with relative ease; catalog would not be machine-readable or manipulable.	Since it is machine-readable, the data could be manipulated in various ways including production of a wide range of indexes (KWIC/KWOC, etc.), production of special bibliographies and simultaneous production of dictionary, divided and classed catalogs, with indexes; the same record could be used in many library processes (acquisitions, technical processing, circulation, etc.); selected pages could be copied by patrons with relative ease.
BOOK-PRINTED BY TYPESETTING	BOOK-COMPUTER PRODUCED

Conventional microform: Cannot really be updated without being re-photographed. COM: Reformatting costs are included in developmental software and other costs are minor compared with costs of updating a photographically-produced or typeset book catalog, or conventional microform.	Cheapest format with respect to staffing and production costs; data storage a continuing and expanding cost.	Costs updating
If reader-printers available, selected entries could very easily be copied by patrons; inexpensive additional copies permit wide distribution on campus, not only to branches but also to academic departments, institutes, etc; if COM is used, since it is machine-readable, the data could be manipulated in various ways including production of a wide range of indexes (KWIC/KWOC, etc.), production of special bibliographies and simultaneous production of dictionary, divided and classed catalogs, with indexes; the same record could be used in many library processes (acquisitions, technical processing, circulation, etc.)	Since it is machine-readable the data could be manipulated in various ways including production of a wide range of indexes (KWIC/KWOC, etc.), and production of special bibliographies; the same record could be used in many library processes (acquisitions, technical processing, circulation, etc.); hard copy could easily be obtained by patrons; user feedback could be obtained as a function of the system through interactive consoles (e.g. holds placed, orders requested, priority cataloging requested, etc.); if other machine-readable data bases (e.g., ERIC, Chem. Abstracts, etc.) were on-line, the patron could access them	Related Uses
MICROFORM(fiche or film) or VIDEO	ON-LINE TERMINAL ACCESS	Decision Factor

Decision Factor	CARDS	BOOK-PHOTOGRAPHICALLY PRODUCED
ɔoperative elationships	Since only one copy is economically feasible, potential for cooperative relationship is minimal; although cards from other libraries could theoretically be interfiled, because of space, staffing, and public relations problems, this is not a realistic possibility.	Multiple copies could be used throughout the UC and CSUC systems, as well as by any other libraries or networks, public or private; an adjunct to interlibrary loan; data cannot be easily merged with data prepared by other institution (e.g. MARC tapes) or with records showing other institutions' holdings.

BOOK-PRINTED BY TYPESETTING	BOOK-COMPUTER PRODUCED
Multiple copies could be used throughout the UC and CSUC systems, as well as by any other libraries or networks, public or private; an adjunct to interlibrary loan; data cannot be easily merged with data prepared by other institutions (e.g. MARC tapes) or with records showing other institutions' holdings.	Political situation would necessitate cooperation with ULAP; multiple copies could be used throughout the UC and CSUC systems, as well as by any other libraries or networks, public or private; an adjunct to interlibrary loan; assuming appropriate software is available, data can be merged with data prepared by other institutions (e.g. MARC tapes) or with records showing other institutions holdings.

MICROFORM(fiche or film) or VIDEO	ON-LINE TERMINAL ACCESS	Decision Factor
	through these same consoles.	
Inexpensive multiple copies could be used throughout the UC and CSUC systems, as well as by any other libraries or networks, public or private; an adjunct to interlibrary loan; if COM is used, political situation would necessitate cooperation with ULAP; assuming appropriate software is available, data can be merged with data prepared by other institutions (e.g. MARC tapes) or with records showing other institutions' holdings.	Political situation would necessitate cooperation with ULAP; assuming appropriate software is available, data can be merged with data prepared by other institutions (e.g. MARC tapes) or with records showing other institutions holdings; remote access possible to and from other institutions; an adjunct to interlibrary loan.	Cooperative Relationships

Employment	Status quo.	Minimal effect.
Special Feature	None.	None.
Decision Factor	CARDS	BOOK-PHOTOGRAPHICALLY PRODUCED

Minimal effect.	Minimal effect.
None.	Once a machine-readable data base has been created, a library is not tied to the use of any one format, but can use book, card, COM, on-line terminal access, etc.
BOOK-PRINTED BY TYPESETTING	BOOK-COMPUTER PRODUCED

Minimal effect.	Would need more technical staff than present situation for system maintenance and fewer clerical staff for jobs such as filing.	Employment
If COM is used, once a machine-readable data base has been created, a library is not tied to the use of any one format, but can use book, card, COM, on-line terminal access, etc.	Once a machine-readable data base has been created, a library is not tied to the use of any one format, but can use book, card, COM, on-line terminal access, etc.	Special Feature
MICROFORM(fiche or film) or VIDEO	ON-LINE TERMINAL ACCESS	Decision Factor